

60

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A MONTHLY DIGEST OF THE BEST CURRENT SOVIET WRITING ● DECEMBER

12

1982

DECEMBER 1982 12

Sputnik

DIGEST OF THE SOVIET PRESS

The USSR is
60 Years Old

UNLOCKING SECRETS
OF THE BRAIN

IN A SINGLE
FAMILY
OF NATIONS

NEW
VARIETY
STARS



DISCO STYLE AND FASHIONS

RUSSIAN SNOW



© 1990 by Vladimir KOPOSOV


Sputnik

THE ANIMAL KINGDOM
OF THE USSR

DECEMBER

	6	13	20	27
	7	14	21	28
1	8	15	22	29
2	9	16	23	30
3	10	17	24	31
4	11	18	25	
5	12	19	26	



Union
of Soviet Socialist
Republics



USSR

Sketch-map

Supplement to SPUTNIK

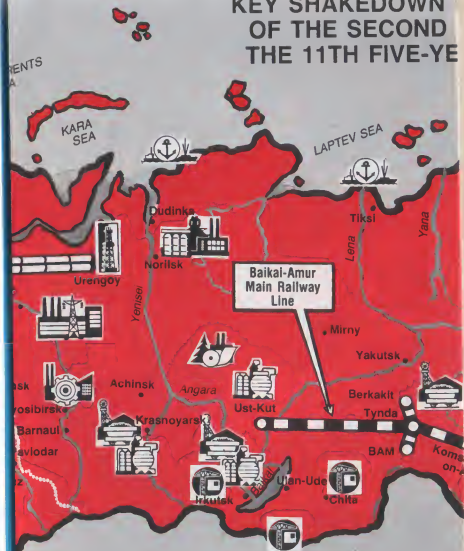
The Union of Soviet Socialist Republics (USSR) is the largest country in the world. It occupies one-sixth of the globe's dry land - 22.4 million square kilometres, and is situated in the Eastern part of Europe and in North and Central Asia. The USSR territory stretches almost 5,000 kilometres from North to South and 10,000 kilometres from West to East and takes in 11 time zones.

The USSR borders on Norway, Finland, Poland, Czechoslovakia, Hungary and Romania in the West, and on Turkey, Iran, Afghanistan, China, Mongolia and the Korean People's Democratic Republic in the South.

The USSR has a population of 270 million, representing more than 100 nations and nationalities. The Soviet Union holds third place in the world according to the size of its population. The capital of the USSR is Moscow (with more than eight million inhabitants).

The USSR is a union of 15 equal Soviet socialist republics. They include 20 autonomous republics, eight autonomous regions and 10 autonomous areas. The Soviet Union is a socialist state of the whole people. All power in the USSR belongs to the people. The Soviets of People's Deputies constitute the political foundation of the USSR. The leading and guiding force of Soviet society and the nucleus of its political system is the Communist Party of the Soviet Union (CPSU). The new Constitution of the USSR was adopted on October 7, 1977. According to the Constitution, the economic system of the USSR is based on socialist ownership of the means of production, excluding the exploitation of man by man.

KEY SHAKEDOWN OF THE SECOND THE 11TH FIVE-YE





Emblems, flags and capitals of the USSR and Union Republics



USSR, Moscow

KEY SHAKEDOWN PROJECTS OF THE SECOND YEAR OF THE 11TH FIVE-YEAR PLAN





















CONVENTIONAL DESIGNATIONS

-  Atomic power projects
-  Hydro-electric power projects
-  Thermal electric power projects
-  Engineering
-  Ferrous metallurgy
-  Chemical, petrochemical and oil-refining industries
-  Coal mining
-  Timber, wood-working, and cellulose and paper industries
-  Light industry
-  Plants turning out building materials and structures
-  Food, meat and dairy industries
-  Projects specializing in farm produce purchases and storing
-  Agricultural projects
-  Sea and river port piers
-  Railways
-  Oil pipelines
-  Gas pipelines
- Oil and gas

PROJECTS YEAR OF PLAN



CONVENTIONAL DESIGNATIONS

-  Atomic power projects
-  Hydro-electric power projects
-  Thermal electric power projects
-  Engineering
-  Ferrous metallurgy
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-  Oil pipelines
-  Gas pipelines
-  Oil and gas

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DEAR READER,
If you wish

TO KEEP
up to date with the internal affairs and foreign policy of the USSR, and the latest achievements of Soviet science and technology;

TO KNOW
what people in the Land of Soviets are thinking, talking about and debating;

TO READ
works by Soviet writers, memoirs by outstanding public and political figures;

TO TAKE
fascinating trips across the length and breadth of the Soviet Union;

TO LEARN
Innumerable interesting facts and details about Soviet reality in all its multifaceted richness;

TO BECOME
acquainted with the life of the Soviet people

**THEN READ
SPUTNIK!**



Sputnik



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DEAR READER:

Holiday greetings and best wishes for health, happiness and prosperity in 1983!

We sincerely hope that you will be among our subscribers in the year ahead.

THE EDITORS

WHAT I THINK ABOUT SOVIET MAN

I thought the article "So What Are We Russians Like?" (Aug 82) was very good. Although the image of Soviet man presented in it is vivid enough, it by no means exhausts the characteristics of your people. The way I see it, Soviet man is a man of a new, developing society. He constantly seeks paths to perfection.

Juan Pio NARVAEZ,
Guayaquil, Ecuador

THE USSR THROUGH THE EYES OF READERS

I have visited your country seven times and hope to come again shortly, despite my advancing years (73).

Continued on p. 17

Editor's Notes

A UNION WHICH RESTS ON A STABLE FOUNDATION



More than 2,000 nations and nationalities live on our planet. For centuries tribal, racial and national strife have plunged entire continents into senseless killings, causing innumerable sufferings. And for centuries, human thought has been trying to comprehend the ultimate cause of national antagonisms and national oppression and to find a way out of the closed circle of these ostensibly inevitable evils. How to resolve the problem was indicated by Marxism.

"In proportion as the exploitation of one individual by another is put an end to," Marx and Engels wrote in the *Manifesto of the Communist Party*, "the exploitation of one nation by another will also be put an end to." In another 70 years this prophetic prevision was made a reality in Russia by the October Revolution of 1917 and its offspring - Soviet power.

A few hours after the victorious armed uprising in Petrograd (now Leningrad) the 2nd All-Russian Congress of Soviets, addressing the working people of Russia, stated: "Soviet power . . . will ensure to all nations which populate Russia a genuine right to self-determination." And the *Declaration of the Rights of the Peoples of Russia*, published in mid-November 1917, proclaimed the equality and sovereignty of all peoples of our country, their right to self-determination up to and including secession and the formation

of independent states, the abolition of all national and national-religious privileges and restrictions, and the free development of the national minorities and ethnographic groups which inhabited Russia.

The Soviet state thus laid the foundations of its nationalities policy. "We do not rule by dividing, as ancient Rome's harsh maxim required," Lenin pointed out in 1918, "but by uniting all the working people."

The Russian Federation and the independent Soviet republics (the Ukraine, Byelorussia, Azerbaijan, Armenia and Georgia) which had been established in the course of the socialist revolution and the subsequent Civil War on the territory of the former Russian Empire, formed a political and defensive alliance. However, that was only the first step. The situation demanded the continued unification of all Soviet republics.

"The ravaged fields, plants at a standstill, destroyed productive forces and depleted economic resources - the heritage of the war - make the individual efforts of individual republics inadequate . . . On the other hand, the instability of the international situation and the danger of fresh attacks make inevitable the establishment of a united front of the Soviet republics in the face of the capitalist encirclement," said the *Declaration on the Formation*

of the Union of SSR, which was adopted by the First All-Union Congress of Soviets held in December 1922. However, this historic moment was preceded by a long and difficult search for the most expedient form of unification of the republics.

When, on the initiative of the communists of the Ukraine, Byelorussia, and the Transcaucasus, a discussion of the formation of a single socialist state took place in Moscow in the spring of 1922, Lenin was ill. A draft *On Relationships between the RSFSR and the Independent Republics*, worked out by Stalin, chairman of an ad hoc commission, provided for the incorporation of the Ukraine, Byelorussia, Georgia, Armenia and Azerbaijan in the Russian Federation as autonomous republics. The draft was circulated for discussion among the communist parties of the non-Russian republics, but was rejected by the majority of them.

In September Lenin's state of health permitted him to return to an active role in Party and state affairs. Lenin meticulously studied the materials of the commission and invited Stalin for a talk. They met on the morning of September 26 and talked for almost three hours. No documentary evidence of the interview has survived, but, as succeeding events showed, Lenin disagreed with the "autonomization" plan and instead proposed a union of equal states.

In the next few days Lenin had conversations with the chairmen of the governments of Georgia and Armenia and members of the Central Committee of the Communist Party of Georgia. Later, one of them, Kote Tsintsadze, recalled that Lenin had asked: "If 'autonomization' is bad, what do you think of 'union'?" When Lenin was told that the concept was excellent, that small Georgia, for instance, would then form part of the USSR on an equal footing with the Russian Federation, he smiled with satisfaction.

In another 60 years, summing up the traversed path, L. I. Brezhnev, General Secretary of the CC CPSU, said: "Within an extremely short time our country has achieved not only the judicial, but the actual equality of all its nations and nationalities. A new historical community of people - the Soviet people - has come into being. Fraternal relations between the working people of all nationalities and Leninist friendship among the peoples have become securely established."

On October 6, 1922 a plenary session of the Central Committee of the Communist Party was held in Moscow. It affirmed that "it was necessary to conclude a Treaty between the Ukraine, Byelorussia, the Federation of the Transcaucasian republics* and

the RSFSR on their unification into a Union of Socialist Soviet Republics, leaving each of them the right of free secession from the Union." On December 13 the 7th All-Ukraine Congress of Soviets and the 1st Transcaucasian Congress of Soviets adopted decisions on the necessity of forming the USSR. On December 18 a similar decision was passed by the 4th All-Byelorussian and on December 26 by the 10th All-Russia Congress of Soviets.

The 1st All-Union Congress of Soviets opened at noon on December 30, 1922 in the Moscow Bolshoi Theatre. Mikhail Roslyakov, a delegate to that congress, and 59 years later a delegate to the 26th CPSU Congress, describes his impressions of the historic occasion:

"It was my first time in the Bolshoi Theatre. The session proceeded in semi-darkness. There was not enough electric power to light all the chandeliers. It was cold. The hall was overcrowded. In addition to the delegates of Russia, the representatives of the Ukraine, Byelorussia, the Transcaucasus and guests were present...

"Eighty-nine per cent of the delegates were under 40. Almost two-thirds were workers and peasants.

"Everybody was feeling elated, although it was sad to know that Lenin, who had done so much in

order to bring this remarkable day nearer, could not attend the Congress for reasons of health. And it was only right that Avel Yenukidze of Georgia, rising to the platform, moved that the leader of the Russian proletariat be elected honorary chairman of the Congress. The more than 2,000 delegates rose to their feet and unanimously approved the motion."

The Congress was addressed by Stalin with a report on the Declaration and Treaty on the formation of the Union of SSR. "Since the formation of the Soviet republics," the Declaration stated, "the states of the world have split into two camps - that of socialism and that of capitalism... Only in the camp of the Soviets, only in the conditions of the dictatorship of the proletariat, which has rallied around itself the majority of the population, has it been possible to uproot national oppression, create an atmosphere of mutual trust and lay the basis of fraternal cooperation between the peoples..."

"Announcing all this to the entire world... we, delegates... decree the signing of the Treaty on the formation of the 'Union of Soviet Socialist Republics.'"

"There came a historic minute," recalls Roslyakov. "The Congress unanimously endorsed the Declaration and Treaty on the formation of the USSR. The table, which was covered by a red velvet cloth, was approached by

the heads of the delegations of the republics, who signed the documents... I looked around me and saw beaming faces everywhere."

The Congress elected Mikhail Kalinin, a metal worker, to the post of Chairman of the Central Executive Committee* of the USSR. Lenin was appointed Chairman of the Council of People's Commissars (Council of Ministers) of the USSR. In his summing-up speech Kalinin said:

"For thousands of years the best minds of mankind have been painstakingly searching for forms that would enable peoples to live in friendship and fraternity, instead of suffering agonies and waging mutual struggles. Only now, on this day, is the cornerstone of such an edifice being laid."

Sixty years after these words were uttered, the Soviet people, in celebrating the jubilee of their state, are conscious that the cornerstone has stood the test of time, forming the stable foundation on which rests the indestructible structure of fraternity and friendship of the peoples - the Union of Soviet Socialist Republics.

* In March 1922 the Soviet republics of Georgia, Armenia and Azerbaijan formed the Federative Union of the Socialist Soviet Republics of the Transcaucasus. - Ed.

* The supreme body of state power in the country functioning in between the congresses of Soviets. Following the adoption of a new Constitution of the USSR in 1936, the functions of the All-Union Central Executive Committee have been performed by the Presidium of the USSR Supreme Soviet. - Ed.



It usually requires
months, sometimes
years to show our
country's history
in pictures.

Two or three
memorable photos
can suffice to
demonstrate that
the young Soviet
era inherited
from the past a
legacy of poverty

and backwardness, the
devastation in the
wake of World

War I
and the
Civil War.

Realizing a
future free alliance
of free people,
we must add that we
would unite all
working people by
the unbreakable
links of class
consciousness:

The federation, he
said, will grow and
it will be
indestructible.



IN THE NAME OF LIFE

Soviet Foreign Policy from the Beginnings to the Present

by Boris KROTKOV

When the first socialist state in history – Soviet Russia – appeared on the political map of the world in 1917, the Western bourgeoisie called it an “illegitimate child” and made an immediate bid to strangle it. The imperialist reactionaries put into play all the ploys at their command – political slander, armed intervention, economic blockade, diplomatic boycott. On the initiative of Winston Churchill of Great Britain and with the support of Woodrow Wilson of the United States the West organized a “crusade” of 14 powers against the Land of Soviets. And in an attempt to justify themselves in the eyes of world public opinion, the aggressors accused their victim of intending to impose socialism by force on the entire world.

The conclusion of the intervention is well known. The invaders were defeated. In 1922, the year when the Soviet socialist republics formed the USSR on the territory of the former Russian Empire the last troops of the interventionists (American and Japanese) were forced to withdraw from Russia.

However, the myth about a “Soviet menace” dies hard. It is invoked by the enemies of the Soviet Union to this day. And, regrettably, to this day some people in the West believe in it. And yet all one has to do is turn to history to see that ever since it came into being the Land of Soviets has been pursuing a consistent policy of peace and general security in the international arena.

What was the very first foreign-policy act of Soviet Russia? What did the Lenin government do when it came to power?

On the second day after the victorious October Revolution, November 8, 1917, the Soviet government appealed to all belligerent nations (that was during World War I) to start immediate negotiations for concluding a just democratic universal peace without annexations and indemnities. Simultaneously, Soviet Russia announced its unilateral renunciation of the unjust treaties once concluded by the czarist regime, adding that it held war to be the “greatest crime against humanity”.

In response, Kaiser Germany unleashed a frontal offensive against the Land of Soviets and occupied the Baltic area, part of Byelorussia and the Ukraine. Britain, France and the United States were determined not to be outdone. As mentioned earlier, they organized a “crusade” against the world’s first state of workers and peasants. When the “crusade” collapsed they shifted to an economic blockade and a diplomatic boycott of the Soviet state. The United States refused to recognize the USSR *de jure* until 1933. Doesn’t this furnish adequate evidence that the country which conducts the anti-Soviet chorus in our time took the most ultra-conservative attitude to the Soviet Union even in those – now distant – times?

While the Soviet government’s appeal for a peace without annexations and indemnities was the maiden foreign-policy initiative of Soviet Russia, its participation in the Genoa Conference of 1922 opened a new chapter in the international activities of the socialist state, which was considered of exceptional importance by the Soviet leaders, above all, Lenin.

However, at the Genoa Conference the Western powers attempted to impose a colonial regime on Soviet Russia, going so far as to demand foreign control of its national economy. Need it be said that these claims were rejected?

Elucidating its position, the Soviet delegation declared: “Abiding by the

principles of communism, the Russian delegation recognizes that in the present era of history, which makes possible the parallel existence of the old social system and the nascent new one, economic cooperation between the states representing these two systems of property ownership, is imperative. . . .” The statement was tantamount to an appeal for peaceful co-existence between states with different social systems.

Back in 1922, at the first international conference that Soviet representatives attended, they advanced a concept that forms the basis of the entire foreign policy of this country to this day – the concept of peaceful coexistence or, as Lenin put it, of peaceful life together of socialist and capitalist states despite all their differences.

How did the West react to the Soviet initiative? It refused to listen to anything about peaceful coexistence. As it refused to discuss another Russian proposal – for the general reduction of armaments and a ban on the most barbaric means of warfare, “poison gas, aerial combat and others, especially the use of means of destruction spearheaded against the civilian population”.

True, within several years public opinion forced the West to agree to set up a disarmament commission within the framework of the League of Nations. The commission began its work in 1927. But

when the Soviet delegate, addressing one of the sessions, proposed disbanding the armed forces, scrapping all weapons, ending government allocations for military purposes and banning war propaganda, the powers which since 1917 had been ceaselessly circulating the myth about a "Soviet menace", brushed these proposals aside.

The rise in the heart of Europe in the 1930s of fascist Germany, which shortly found a common language with militarist Japan, meant that a critical moment had come in the life of all peoples of the world: it portended another world war. However, the leaders of the "Western democracies" nursed the hope that they would turn Hitler eastward against the Soviet Union. For this reason, when the Soviet Union began to make persistent efforts to forge a collective security system in Europe, the hand of friendship it extended to the West was left hanging in mid-air.

In truth, the only witness whose evidence can be completely trusted is history. And history records that in 1938 a black deed was done in Munich. Encouraged by US monopolists, Britain and France offered Hitler Czechoslovakia on a plate as payment for aggression against the Soviet Union. And literally several weeks before the actual outbreak of the Second World War the "Western democracies" committed another act of treachery, this time against their own peoples: they declined the Soviet offer of a treaty of mutual assist-

ance. If such a treaty had been concluded Hitler could still have been stopped. However, London, Paris and Washington then had other plans.

How could the Soviet Union react in a situation like this? It concluded a non-aggression pact with Germany in order to buy time, however little, to prepare to rebuff the aggressor. And that Hitler would sooner or later attack the Soviet Union was obvious to all our people. In our country it was only bitterly regretted that the West European leaders and their overseas friends and mentors had been so shortsighted, or more exactly, so blinded by hatred of the socialist state that they had overlooked the mortal danger looming over their own countries.

Europe was saved from the fascist yoke by the Soviet Union. Its contribution to victory over Hitler is known throughout the world. However, it was a hard-won victory for the Soviet people. The war took a toll of 20 million lives in our country (the death total of World War II was 50 million). More than 1,000 Soviet cities and many thousands of villages lay in ruins by 1945. But, when the Victory salvos were fired no other people was more convinced that they marked not just an end to the war, but the onset of the long-awaited lasting peace.

However, yesterday's allies, backing down on their commitments, unleashed a cold war against the Soviet Union and threatened a hot

war. The events of the late 1940s are still fresh in many people's memories.

The United States, having dropped two atomic bombs on Japan, proceeded to blackmail the Soviet Union, which then had no atomic weapons. To put an end to the blackmail, Soviet scientists were forced to create an atomic bomb. Then the hydrogen bomb was brandished at our country. Soviet researchers devised this new weapon as well. The United States knocked together NATO. In response, the Warsaw Treaty Organization was established. The United States ringed the Soviet Union with hundreds of military bases. To protect itself, our country built a deep-sea naval fleet. The United States developed multiple nuclear warheads and heat-seeking missiles. The Soviet Union then did the same.

Does this ominous list need to be continued? To my mind, it is abundantly clear that at no stage of the arms race did the Soviet Union lead the way. On the contrary, all these years it has been persistently championing international security. Here are just a few of the proposals it has made to the Western powers:

To ban nuclear weapons; scrap military pacts; agree on the non-use of force in international relations; ban the manufacture of new types of weapon of mass destruction, including neutron weapon; strengthen measures that

would enhance trust between the great powers in the military field; agree on general and complete disarmament.

However, none of these moves nor such an obviously welcome Soviet initiative as the statement of its leaders that their country will never be the first to use nuclear weapons, whatever the circumstances, received support from the Western powers. All these facts notwithstanding, the world continues to be told tales about a "Soviet menace". Where is the logic?

There is no logic in the actions of the present US Administration. Otherwise it would not have announced another "crusade" against communism and the US President would not have appealed to his NATO allies to stop vacillating and to use their power. Far from being the language of a peace supporter, it is that of a war instigator.

Replying to President Reagan, the Soviet leader, Leonid Brezhnev, said, "We are not seeking confrontation with the United States. We are not encroaching on the legitimate interests of America. We have different aims. We want peace, cooperation, mutual trust and good will between the Soviet Union and the United States. There is no catch in our proposals, nor are they dictated by any ulterior motive."

We hope that the reader will draw his own conclusions from the foregoing.



After six decades ago at the Geneva Conference the young socialist states proclaimed their foreign political course - peace and cooperation among nations - and a few people at the time believed in its feasibility. In our day, when cooperation is developing between the USSR and other countries, when Chinese and French engineers are skillfully working together to crew out in space, mankind is moving with hope and satisfaction towards the words of Brezhnev said at the 20th CPSU Congress: "The USSR is our common star into the future."



PROUD AND COURAGEOUS PEOPLE

by Boris PETKOV, a Bulgarian journalist
from the newspaper KRASNAYA ZVEZDA

"Everyone please keep your seat until the plane has made a full stop!" the stewardess said. I put on my coat and sat impatiently waiting for the gangway to be pulled up.

I will always remember my first few days in the Soviet Union. My visit to the Moscow Kremlin and the modest study of Lenin is forever embedded in my memory. The underground palaces of the Moscow Metro, old and young Kiev, the Hermitage Museum in Leningrad, and the palaces and construction projects of that city on the Neva will remain among my lifelong impressions. Later, moved by the words, "The Volga is behind us. There is nowhere to retreat!", I stood outside the former command post of General Chuikov, Commander of the 62nd Army which defended Stalingrad during World War II, and listened to a story about the heroism and selflessness of the soldiers and inhabitants of the city.

I met and talked with Soviet people of all ages, and got an idea

of their cultural world, ideals and desires, and felt the dynamic pulse of their daily life. I saw a society united by common thoughts and goals despite the differences in national character.

When I came for another stay in the Soviet Union 10 years later I was amazed at the socio-economic, political and cultural achievements which have earned the country the reputation as a pioneer in the development of socialism.

As a member of the Bulgarian press, I have been living and working in the Soviet Union for more than five years now. I feel the dynamic changes taking place in the country and in the everyday life of its people. I have witnessed the growing democratism of Soviet society, which finds expression in, and derives fresh stimulus from the new Constitution of the USSR and the decisions of the 26th CPSU Congress. The pace-setters of new construction schemes are giants like the KamAZ and Atomash plants, the Sayan-Shushenskoye Hydro-

power Station, the BAM Railway, which has come to be known as the project of the century, the extensive tapping of Siberia and the Arctic Ocean, the unlocking of deeply hidden secrets of nature and the development of outer space.

Meetings with workers from Moscow, Leningrad, and the Urals, collective and state farmers from the Moscow Region, the Baltic area and Soviet Central Asia, developers of the Virgin Lands of Kazakhstan, grape-growers from Georgia, and cosmonauts all strengthen my conviction that the Soviets are a worthy, courageous and proud people whose achievements and actions are opening up new horizons for themselves and the world in general. They are a people who firmly believe in the correctness of their chosen path and calmly look toward the future, without shuddering at the threats and outcries of the inventors of anti-Soviet fabrications.

I find the inspiring successes of the Soviet people stirring but not surprising. I am used to these achievements, accepting them as something ordinary, natural and inherent in those who are preparing to celebrate the 60th anniversary of the formation of their Union of Soviet Socialist Republics.



Continued from p 3

I have been to Moscow, Kiev, Irkutsk and also Tashkent, which has become even more beautiful after its reconstruction following the terrible earthquake in 1966. In Kazakhstan I saw the vast expanses of virgin and fallow lands opened up by Soviet people. And how many residential blocks, schools and universities are being built in your country!

But the most profound and unforgettable impressions remain after meetings with Soviet people, always cheerful and confident of the future. It is difficult, almost impossible to imagine the enormous changes that have taken place in your country in the years of Soviet power. You have to see it!

Gerta SANGS,
Norderney, FRG

I recently returned from a trip to the Soviet Union. Those two weeks were the best in my life. I saw with my own eyes that you are building the most humane of societies. The transformations in the life of the Soviet people are truly remarkable, especially in the republics of Central Asia. We visited Bukhara, Samarkand, Penjikent and Dushanbe, which is a twinned city of



Klagenfurt. The old city quarters and architectural monuments erected centuries ago are lovingly preserved and maintained in exemplary order. So we felt as if we were transported into the remote past, although life there, as elsewhere in your country, is streamlined.

We visited the university in Dushanbe. It is incredible when one thinks that 60 years ago the local population was next to totally illiterate.

It was impossible not to observe that people are quite well off.

Ina KONOPASEK,
Klagenfurt, Austria

We know that in December you will observe the 60th anniversary of the formation of the USSR. No doubt, in connection with this occasion you will be holding various celebrations and forums. It would be enjoyable to read about them.

A few years ago I was in your country and saw Leo Tolstoy's House-Museum in Yasnaya Polyana, located in such a scenic spot.

I took home innumerable marvelous impressions!

Zolia LEON,
Guantanamo, Cuba

WISH FOR THE FUTURE

It is wonderful that your magazine informs us about the Soviet way of life. In this connection I would advise you not to drop the feature "For the 60th Anniversary of the USSR". What you say about the Soviet republics is very interesting. I strongly suggest that this theme be expanded and that you launch publication of materials dealing with the autonomous republics and regions of the Soviet Union.

Benjamin BIANCHI,
Caracas, Venezuela

SYMPATHY & ADMIRATION

I enjoyed the story about Soviet Georgia in the June/82 issue. The successes scored by this republic in the years of Soviet power and the efforts exerted by the people to make their land beautiful evoke sympathy and deep admiration.

Hans-Ulrich WOLFIN,
Schwerin, GDR

DEAR READER:

Along with your January issue of the magazine you will be receiving a questionnaire. Your replies to the questions will help to make SPUTNIK a more interesting and informative magazine. We will do our best to take into account your wishes, suggestions and critical remarks, which we are sure will lead to an improvement in the magazine's content and layout.

The EDITORS

MY CONTACTS

IN FLORIDA

by Melor STURUA,
Izvestia correspondent

Speaking engagements before the members of Rotary and Kiwanis clubs in Florida all follow the same procedure. The chairman brings his gravel down, everyone rises, stands at attention and looks at the US flag in the corner. The pledge is recited in chorus, right hand over the

Even before I started to speak, they had already decided not to believe me. They did not trust Soviet Communists on principle. I faced the very 'moral majority', which supports the officially sanctified anti-communism of the USA.

heart: "I pledge allegiance to the flag of the United States of America and to the republic for which it stands, one nation under God, indivisible, with liberty and justice for all."

Then the national anthem is sung, followed by a prayer and a meal. Current issues are discussed, preparations for Pancake Day, the admission of new members, the auditor's report, birth-

day greetings, the forthcoming horse auction, and similar matters.

Finally, a guest speaker, invited to enlighten the audience, is given the floor. In this case, I was the speaker.

I remember clearly the question by the local priest during my first visit,

- Are you a Communist?
- Yes.
- Do you carry a card?
- Yes, I do.
- Are you a Christian?
- No, I am an atheist.

The priest then turned to the audience and shook his head meaningfully, visibly saddened. The message was clear: Brothers, can we believe a single word that Communist says if he has a party card in his pocket and no God in his heart?

Leesburg Kiwanis club members murmured in sympathy. No, they couldn't trust a Communist.

Carl Soule, the man who was the first to meet me on the benign Florida soil, and who took me to Leesburg and arranged for my speaking appearance was a Methodist minister himself. That does not affect his ability to patiently

listen, even if someone holds different views. In this he behaved like a true Christian, that is, showed remarkable tolerance.

Soule graduated from a religious seminary in Boston half a century ago. He was a good student, and earned a scholarship to continue his education in Europe. In those days, Germany was considered the centre of theological studies, so Carl went there. Incidentally, he arrived in 1933, the year Hitler came to power.

"The time I spent in Nazi Germany taught me a lot," says Carl. "I saw why Hitler could carry with him the industrious, God-fearing Germans, inspire them to hate the rest of the world and lead the nation into the abyss. He promised jobs to the unemployed, revenge for 'the national disgrace,' that is the military defeat in World War I, to the chauvinists and safeguards against 'Jews and Communists' to the petty bourgeoisie. Propaganda stressed the military weakness of the Third Reich and called for rearmament and a decisive response to the Soviet threat. Sounds familiar, doesn't it?"

After he returned to the United

States Mr. Soule taught philosophy and theology in various colleges, received his doctoral degree, and served as a Methodist minister. In 1945 he was elected member of the World Council of Churches and from 1960 to 1972, was the Council's representative to the United Nations.

The Reverend Soule devoted himself wholeheartedly to the peace movement, promoted disarmament and opposed the cold war. He sponsored trips to the USSR and other socialist countries, holding the firm view that personal knowledge about the world around us was the best way to counter misinformation.

In 1972 the Soules moved from New York to Florida, and bought a plot of land in Lady-Lake with a house and orange trees. As senior citizens they again embarked upon a personal peace crusade, promoting friendship among peoples of different countries.

"In the South it is much more difficult to reach people than in the big cities of the North-East," explained Soule. "You are open to accusations of being unpatriotic. The local residents have walled themselves in from the outside world, mind their own

business and have gross prejudices. They know very little about the world at large, and view even Washington suspiciously, to say nothing about Moscow."

Carl told me that I was the first person from the Soviet Union ever to appear and speak before that very "moral majority". Several years ago Carl and like-minded people organized a seminar in central Florida *The United Nations, the United States and the Soviet Union*. The guest speakers were usually liberal professors from state universities but this time they decided to invite a Soviet citizen.

In the course of a week I made three or four appearances a day before members of *Rotary* and *Kiwanis* clubs. The names of these clubs may sound pompous and suggest rich quarters, splendid libraries with leather armchairs, and well-groomed servants, but this is not the case. Neither the Rotarians nor the Kiwanians have permanent club houses. They meet in cafeterias or in rented municipal facilities.

Both clubs draw their membership from among professional men, local businessmen, farmers,

and store-owners. They wear simple, modestly priced suits and dresses, and do not always exhibit good manners. Many have the rough hands of manual workers and sun-tanned faces, which is not surprising considering the Florida sun. You won't find agrobusiness tycoons, bank presidents or godfathers of organized crime among the members. They live in Palm Beach or Miami Beach not in Leesburg. Kiwanians and Rotarians are the mass, the people, the grass roots. No political party can count on winning without the support of these voters.

They represent public opinion, though very often they possess no opinion of their own, making do with a borrowed one. The Bible and local papers are their reading matter. They are against inflation, liberals, budget deficits, equality of sexes and races, high bank rates and prostitution. But even more, they dislike godless Communists who - as everyone knows - are scheming to conquer the United States, seize bountiful Florida and replace *Rotary* and *Kiwanis* clubs with one vast concentration camp.

Here we come to a very serious

point. Not only in the South but in the North-East as well, American propaganda presents us, Soviet society, as a dreary compound surrounded by an iron curtain and populated by thoughtless morons, who have been brainwashed and thoroughly indoctrinated.

I'll cite an example. In the town of Umatilla I was asked the following: "Mr. Sturua, you have been living in the United States, travelling around to different places, lecturing a lot and nothing has happened to you. But in the USSR they shoot visiting American tourists. Isn't that so?"

At first I was dumbfounded. I couldn't believe what I had heard, and decided to check: "Do you really think that tourists are executed in the USSR?" "Yes, I do. We read about it in newspapers." I regained my composure and asked Carl Soule, who sat next to me at the podium: "Mr. Soule, you have been to the Soviet Union, haven't you?" "Yes," Carl confirmed, "many times." "Then you must have passed through several resurrections after having been shot."

There were stirrings and scattered applause among the

audience, but this did not cheer me up. The layer of lies and falsehoods which has formed Florida's public opinion was too thick to destroy with a single blow.

In my speeches I talked about the 20 million Soviet people who fell victim to Hitler's "crusade against communism", and explained that during the 900 days of the Leningrad siege, more people perished than the United States has lost in all the wars it has waged in the 200 years of its existence.

I reminded the "moral majority" that practically every Soviet family lost someone in the war and in some places (say, in Byelorussia) entire families were murdered with no one left to cry. I spoke of my elder brother who had been killed near Kursk, and another who had taken great risks to escort US ships bringing military supplies to Murmansk.

I realized that people in the audience probably didn't know where Kursk, Murmansk or Leningrad were, but at least for a minute, they saw in me a person who did not want war.

I had no illusions: the ice had

not melted. Merely a tiny crack had appeared in what had been a solid surface. I began to understand the dual nature of the "moral majority".

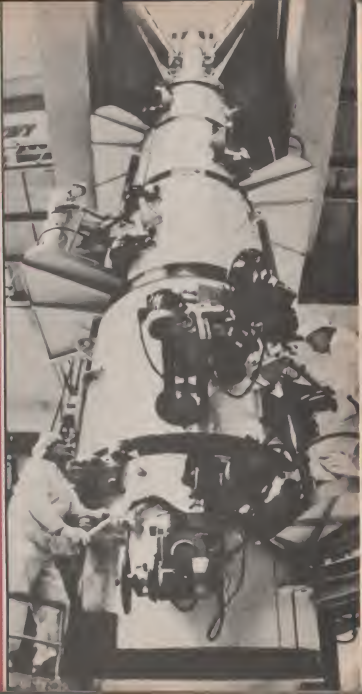
Taken by themselves, they are simple. God-fearing people used to hard work and sincere patriots of their country. They dream about a bumper crop and a peaceful future for their children. Individualism runs strong in them and the principle "my house is my fortress" is deep-rooted, but they are ready to pitch in if a neighbour finds himself in strained circumstances. On a purely human level they could not but feel inclined to live harmoniously with other nationalities, including the Soviet people.

But the "moral majority" turns into a dangerous force when misled by propaganda. It joins ranks with anticommunism. At this point it becomes blind and deaf, immune to any argument.

I witnessed that at close range, felt it, as they say, on my own skin. But the thing I keep and treasure in my memory is that tiny crack in the icy layer of distrust, through which I caught a faint glimmer of human warmth and compassion.



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SOCIETY WITHOUT THE RICH AND POOR

About Economic Cooperation between the Soviet Republics

from the newspaper EKONOMICHESKAYA GAZETA

Each person in the USSR can tell you about friendship between the country's nations from his or her own experience.

"How was it possible to build the 2.7 million-kilowatt Nurek Hydropower Station with the highest dam in the world?" the Tajik poet, Mirsaid Mirshakar, was asked when he was in West Berlin.

"How large is your family?" the poet asked in return.

"There are five of us."

"Do you help each other?"

"Of course we do. We're a family."

"The same is true of the Soviet Union," the poet said. "Our nations are also a family. Everyone helps each other, and in general all the nations work hand in hand."

One of the main problems encountered by the young Soviet state after the Russian Civil War was how to even out the levels of economic and

social development of its central areas and the backward non-Russian provinces. In czarist times, nearly all industry was concentrated in the European part, while the provinces were at best hewers of wood and drawers of water.

Uzbekistan provided all Russia's cotton, but it did not have a single textile factory. And Tajikistan, which now is second in the country in hydraulic energy resources, did not produce a single kilowatt of electricity.

Proclaiming the political equality of all peoples, the Soviet state set out to ensure their economic equality, a great though the problem was. The country was ravaged by the First World and Russian Civil wars; industry manufactured one pair of shoes per 50 people and less than one per capita metre of cotton fabric annually. In other words, there was practically nothing to share. And for a long time nothing could be received in exchange — before the non-Russian republics

were able to join in the intra-Union division of labour the basis of an economy had to be created.

That was why the country's outlying regions developed far more rapidly than central areas, and why the budgets of the Union Republics were 50-100 per cent subsidized from the centre. This policy bore fruit. Kirghizia and Armenia now produce (1982) approximately a thousand times more than in 1922. Today each of the 15 Union Republics has highly developed industries and modern agriculture, while the Soviet Union as a whole is a single economic complex where the economy of each republic forms an organic part of the all-Union economic mechanism.

How does the mechanism function? Each republic does not have to develop absolutely all industries. During the 60 years of being a member of a voluntary Union, each has evolved its own economic specialization which best corresponds to its natural resources and traditions. Current economic growth is based on mutually calculated all-Union and republican interests.

The largest republic territorially, and the richest in resources is the Russian Federation. It is still the fuel and power base of the country. By 1985 it will be producing over 60 per cent of the country's electric power, over 70 per cent of its gas and 90 per cent of its oil.

Even more important, each republic develops new branches of industry in addition to the traditional ones, and the products are necessary to the country's entire economy. Azerbaijan is an excellent example. Forty years ago it produced three-quarters of the Soviet Union's oil. But now the situation is different: Siberia now produces most of the USSR's oil; Azerbaijan only four per cent. But there has been a tremendous increase in its role as a producer of electrical engineering articles, electronic equipment and precision instruments.

The advantages of the all-Union division of labour are distinctly visible in the case of Lithuania. This Baltic republic has no oil, gas or coal resources. Even so, since 1940 its electric energy output has jumped 144-fold — thanks to gas supplied from the Ukraine. However, because its requirements are constantly growing, the country's largest atomic power project — the Ignalinskaya — with reactors of 1.5 million kilowatts of power — so far unequaled anywhere in the world — is going up in Lithuania. Obviously, the entire country is contributing to the construction of this energy giant.

The greatest assistance to the development of the country's non-Russian outlying areas after the October Revolution came from the Russian Federation. The American writer Al-

bert Kahn pointed out that many nations which had reached a high level of civilization extended their influence by oppressing neighbouring countries. This was true of the Spanish conquistadors in Latin America, and of the British and other colonialists in the lands they invaded. The Russians advanced eastwards by seizing cruel nature by the throat rather than the people who lived on the lands they came to.

Perhaps Kahn's only error is that Russian czarism and those who served it also seized by the throat the "aliens", while the hand of friendship was extended to them by the workers who had freed themselves and other peoples from deprivation and oppression. Now that complex all-Union economic programmes are being carried out in the Russian Federation, other republics think it their duty to contribute.

On the 3,200-kilometre Baikal-Amur Railway, each Union Republic will have "its own" town or township and "its own" stretch across the mountains and rivers of Eastern Siberia. Thousands of workers from Azerbaijan, Kazakhstan and Turkmenia are taking part in developing Western Siberia's oil-and-gas industry. In the non-black-earth regions of Russia, where millions of hectares of land are being developed, major agricultural enterprises with locally unusual names like *Uzbekistan*,

Kazakhstan and *Kirghizstan*, with workers from the non-Russian fraternal republics, have sprung up.

Similarly, Russian engineers and workers helped build the Vakhsh irrigation system in Tajikistan, lay what became the Turkestan-Siberia railway across the sun-scorched deserts, and helped develop the mines of Turkmenia and Kazakhstan.

Forming a voluntary Union 60 years ago, the Union Republics constituted a state which could provide itself with all basic resources locally. However, it took many long years of arduous effort to make this potential a reality. This is an accomplishment of all the Soviet nations without exception.

In the *Guidelines for the Economic and Social Development of the USSR for 1981-1985 and for the Period Ending in 1990*, adopted by the 26th CPSU Congress, a special section discusses the continued perfection of the division of labour, the interaction between the republics and ways of integrating branch and territorial planning.

In Siberia and Kazakhstan, their power-intensive wealth will be further developed and power-intensive industrial enterprises concentrated there. In Soviet Central Asia and the Transcaucasus, say the *Guidelines*, industry and the agro-industrial complex will be developed and the production of cotton, tea and the animal husbandry products increased. In addition, provision has been made for the more ex-

tensive use of their ample labour reserves, which are far more modest and badly needed in the Russian Federation.

Following a visit to our country, the Pakistani poet Faiz Ahmad Faiz said:

"Before I came to the Soviet Union I had believed that any multinational country was bound to have its prosperous centres and backward provinces, its rich and poor relatives. Now I can see that this was a misconception."

5

In 60 years, the USSR's industrial output has jumped 537-fold. The increase in each Union Republic is tabulated below. The 1922 level is taken as one (for the Baltic republics, the year of 1940 - when they became part of the Soviet Union).

	1940	1981		1940	1981
Russian Federation	25	478	Moldavia	17	903
Ukraine	19	276	Latvia	1	46
Byelorussia	23	699	Kirghizia	18	690
Tadzhikistan	24	415	Tajikistan	46	874
Kazakhstan	28	902	Armenia	21	1,008
Georgia	17	292	Turkmenia	17	206
Azerbaijan	11	138	Estonia	1	49
Lithuania	1	61			

The USSR now accounts for a fifth of world industrial output, and produces only 20 per cent less of what the United States does. However, it is ahead of the United States in both average annual growth rates and the absolute increase of industrial output.

The USSR leads the world in the production of oil, iron ore, cast iron, steel, mineral fertilizers, cement, lumber, pre-fab ferroconcrete units, woollen fabrics, leather footwear and many other items.

Its agricultural output has grown by 420 per cent in the past 60 years. Kazakhstan alone now grows as much grain as all prerevolution Russia did then.

Man has on many occasions stuck his nose into natural processes with unfortunate results. For this reason, the idea of channelling part of the water of Siberian rivers to Soviet Central Asia has brought a measure of anxiety alongside approval.

DIFFERENT VIEWS OF THE 'PROJECT OF THE CENTURY'

by Lyubov SOBOLEVSKAYA

based on materials from the newspaper PRAVDA VOSTOKA

Photos by Fred GRINBERG & Mai NACHINKIN

It will be possible to channel 1,000 cubic metres of water a second from Siberia's rivers to Soviet Central Asia via a canal — a project that is being extensively discussed in the Soviet Union. Dozens of millions of hectares of fertile land are waiting for the water. "As regards the anxiety," said Igor Gerardi, chief engineer of the project, "one shouldn't be annoyed by it. However, final judgement cannot be based exclusively on emotion or superficial impressions gleaned from all the talk about it."

What makes the canal necessary? Uzbekistan's 3.5 million hectares of irrigated ploughland now yield over 98 per cent of all the crops grown by the collective and state farms. The republic adds up to 100,000 hectares of newly irrigated land every year. It

has a total of 21 reservoirs holding over 10 billion cubic metres of water in all. However, the water reserves of Uzbekistan and other Soviet Central Asian republics are not limitless. If new land continues to be developed at present rates, the water resources of Soviet Central Asia's largest rivers — the Syrdarya and the Amudarya — can be exhausted within the next few years. Meanwhile, there is still a lot of fertile land waiting to be used.

Experts estimate that rational use of the immense water resources of the rivers of Siberia, Soviet Central Asia and Kazakhstan and of the free lands found in the dry steppes, semi-deserts and deserts can feed over 200 million people.

In the Soviet Union, the fluctuation in grain crops in

many areas is primarily due to a shortage of water. Only 30 per cent of the country's total cultivated area receives sufficient rainfall, while remaining 70 per cent experiences regular droughts (in the United States, the ratio is precisely the opposite). At the same time, almost 80 per cent of the water carried by all Soviet rivers flows into the Arctic Ocean.

"Calculations show that it is worthwhile," say the architects and supporters of the project. They have settled on the following scheme: water will be taken from the Ob at the point where it is joined by the Irtysh. The annual intake will be only 25 cubic kilometres for the first section of the canal and 60 — for the second. This is tantamount to creating a man-made counterpart of the Amudarya. For many years, the average annual amount of water discharged by the rivers of Western Siberia into the Kara Sea basin has been 1,350 cubic kilometres. So there is no way the Arctic Ocean will "dry up". Its temperature and its ice conditions will not be disturbed either. This was the conclusion arrived at by experts of the Institute of the Arctic and Antarctic.

Gerardi says that the main diverting channel will be 2,200 kilometres long. It will have an earthen bed, which will simplify the construction of the second section — the increase of width of the bed of the already operating canal. The properties of the land

over which the canal route lies make this possible. Water losses "on the way" will be even less than those in the large Soviet Central Asian arterial canals.

The canal will be navigable — 10-15 metres deep and 200 metres wide. Economically, it will become an important transport artery. When the second section is linked with the Caspian Sea it will become a direct waterway from Siberia to the European part of the USSR.

The volume of earth-moving operations on its first section will be 5.5 billion cubic kilometres. For comparison, the USSR Ministry of Land Reclamation and Water Conservancy is currently handling earth-moving operations of 7.5 billion cubic metres annually.

"The project is tempting but ...", say the sceptics, who demand answers to a host of questions. What proportion of the original water will get to the areas when it will be used? What will be the consequences of the rerouting for Siberia? What will happen to its climate, and wild life? What will the canal cost, and how long will it take to pay for itself?

As far as costs are concerned, there are different assessments. The Panel of Experts of the USSR State Planning Committee estimates that the canal will cost 14 billion roubles to build and will pay for itself within 8-10 years.

Scientists at the USSR Academy of Sciences' Institute of

More than 200 sunny days and only 70 mm of precipitation a year . . . it's a desert.



Geography have made a very interesting conclusion. They say that the redirecting of water from Western Siberia will stimulate the development of this immense

waterlogged territory and "sharply improve the control of the stream-flow regime of the flood plains (the most valuable agricultural lands in Western Siberia)".

Western Siberia is a humid country with plenty of wide rivers and impenetrable swamps.



Meanwhile, the Institute Gidrotibproyekt estimates that channelling the water from the Ob will have an impact on fish: an annual 7,000 tonnes - true, only

320 tonnes of the valuable commercial fish - will be lost. On the other hand, there will be benefits - an annual 27,000 tonnes of non-carnivorous fish will be yielded

by the revived lakes that line the canal, as well as by the deltas of the Syrdarya and Amudarya.

In a longer term, it will probably be possible to resurrect the drying out Aral Sea. Water will not be directed there from the project's first section, but later, when the most urgent needs will have been attended to, water from Siberia could be channelled to the Aral Sea.

"Life without man exercising an influence on nature," said Academician Yevgeni Fyodorov (1910-1981), the well-known geophysicist, "could perhaps be led only by a primitive tribe of fruit gatherers and hunters of small animals." Would the human race have evolved to its present level had our ancestors followed such a pattern? The answer is obvious.

Nature protection today involves the rational use of natural resources and an economical and strictly calculated human influence on the natural environment. The USSR's planned economic development makes it possible and even demands that the influence on the natural environment of each plant, dam, mine or

canal be thoroughly considered in advance. The feasibility study of the rerouting scheme has consumed 15 years' efforts of experts from 150 research and design organizations.

As Academician Fyodorov, who gave great attention to the problem, saw it "rechanneling a minor portion of the water of the Ob... will not produce any climatic change or upset any natural features either on a global or even on a regional scale."

Research and design operations involving the Siberia-Soviet Central Asia canal continue in accordance with the *Guidelines for the Economic and Social Development of the USSR for 1981-1985 and for the Period Ending in 1990*, adopted by the 26th Congress of the Communist Party of the Soviet Union. So does the discussion of the idea. Because the scope of the future project is so great, scientists have no right to make a mistake. The guarantee that the ultimate solution will turn out to be the correct one is the identity of interests of both the "optimists" and the "sceptics". After all, both groups have common benefit at heart.



WHEAT SANCTUARY

Eighty-nine hectares of formerly unirrigated wasteland near Yerevan, the capital of Armenia, are now a sanctuary for grain crops. Practically all known wild wheat species are grown here. This unique museum of animate nature has been established as a plant preserve. Armenian wild wheat which appears in the USSR Red Data Book, is a source of hypotheses and discoveries.

From the newspaper TRUD

THE SNOWS OF RUSSIA

Spotlight on something everyone takes for granted about the Soviet Union's nature

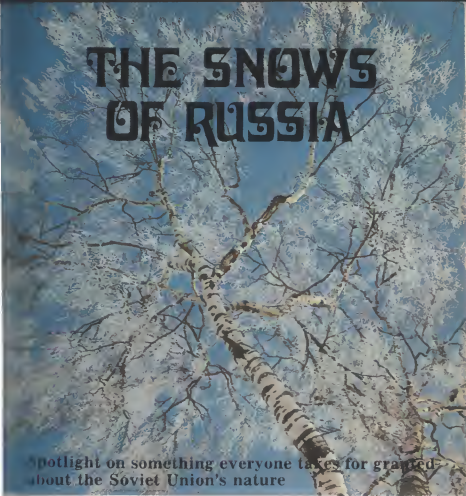
by Mark SOFER, M.Sc. (Geography)

Condensed from the magazine *NAUKA I ZHIZN*

Photos by Alexei FREIDBERG, Sergei LIDOV, Anatoli ZYBIN, Mai NACHINKIN & APN

Paradoxical as it might sound, winter colds come from the cold-born snow. As far as the planet as a whole is concerned, snow is like an immense mirror which reflects almost 90 per cent of the Sun's

radiant energy back into outer space. No other natural body has anything near that reflective power. The land which is not snow covered reflects only 10-20 per cent of the rays. So it follows







that the amount of solar heat the earth receives fluctuates intensely depending on the snow-covered area.

In August, when the amount of snow on the planet is at a minimum and the northern hemisphere is still enjoying summer, winter is coming to an end in the southern, snow covers 8.7 per cent of the earth's surface (seven per cent in the southern hemisphere and 1.7 per cent in the northern). At that time the snow blanket weighs 7.4 trillion tonnes.

In March - the month of the year when the most snow is on the ground - the weight of the



snow cover in the northern hemisphere alone reaches 13.5 trillion tonnes. Of the 19 per cent of the earth's surface covered by snow at this time of year, 15.2 per cent is in the northern hemisphere and only 3.8 per cent in the southern. So the snow cover of the northern hemisphere, as well as being larger than that of the southern, is far more changeable. There is an almost nine-fold fluctuation in area during the year, while that of the southern is only two-fold.

Incidentally, the Soviet Union gets the largest share of the snow. Its greatest thickness is not identical everywhere. However, one can trace a general pattern. The peak values increase gradually from the Baltics to the Moscow area, and then jump abruptly around the Ural Mountains. Farther east, on the plains of Western Siberia, the amount of snow declines sharply. There is particularly little snow in the Transbaikalia area. But farther east, the quantity grows. The record depth of the snow cover in the Soviet Union and all Eurasia has been registered in Kamchatka - up to six metres!

There are also great differences in the duration of the snow period: while snow usually remains on the ground for only several days a year in the Crimea, the valleys of the Caucasus and Soviet Central Asia, it persists for up to 9-10 months in the Far North. Naturally, there are substantial deviations from the rules. For example, in the winter of 1968-1969 all of Soviet Central Asia was covered by snow. In Ashkhabad, the capital of Turkmenia, it reached the unprecedented thickness of 31 centi-

metres, and there was snow on the ground for 52 days.

However, in most cases, each area shows a constant pattern in the amount and duration of snow.

WHAT TYPES OF SNOW ARE THERE?

Nothing would seem lighter than a snow-flake: it weighs as little as 1-3 milligrams. However,



flakes fall in the billions, spreading a white blanket over enormous expanses in several hours.

The best photo collections contain over 5,000 different snowflake patterns. This tremendous wealth of varieties is due to the fact that the patterns go through continuous changes even in mid-air, depending on the weather. Different places have their "own" snow. In central Russia and

Siberia snow often falls in big shaggy flakes.

In the spring of 1944, Moscow saw flakes of up to 10 centimetres in diameter, which looked like small slowly circling saucers. Falling on the black asphalt, each flake formed a big white spot. In Siberia flakes can be up to 30 centimetres in diameter, and it looks as if caps made from fluffy fur are descending slowly from heavens. Tall loose snowdrifts grow before one's very eyes.

That can happen only when there is no wind at all. Even the slightest breeze will shatter this fragile handiwork of nature.

For a flake to form, there has to be a microscopic mote of dust in



the air which becomes the centre of crystallization. When the air is particularly clean and the temperature low, the snow falls in the shape of sparkling "diamond dust". This will occur when it gets really cold (below -40° Centigrade) in central Yakutia. The "diamond dust" is of negligible density - less than 0.01 gram per cubic centimetre. The ordinary density of freshly fallen snow is 0.05 grams per cc.

The density of the snow can double, quadruple and more during snowstorms. In the Soviet Far North, where at times the winds rage on relentlessly for weeks, the snow can become so hard that when struck with an axe, it rings as if iron were striking iron. Soviet Antarctic researchers say that after a hurricane, which fling



forth 3-4-metre-high snowdrifts in several days, the snow defies even the heavy blade of a powerful bulldozer.

If the snow is packed down by

rollers it becomes as hard as ice, so that even heavy planes can land on it. That was how the airfield at the Soviet Antarctic station *Molodyozhnaya* was built.

Some people can tell the temperature outside by listening to the creaking of snow underfoot. But besides creaking, snow can squeal, moan, crackle, or crunch. All these sounds are produced by the tiny crystals as they break under a weight. The colder it is, the thinner the "snow voice".

SNOW ON THE GROUND-BREAD WILL ABOUND

This old Russian couplet neatly sums up the role of snow in agriculture. The temperature of the ground, humidity, chemical composition, structure and microorganism saturation largely depend on the amount and type of snow which fell the previous winter.

Snow is a vital crop factor. On arid land (the Volga Area and Kazakhstan) it represents the main source of moisture reserves in the soil. Various methods are needed to prevent the winter winds from blowing off the snow from the fields: it is gathered into ridges by bulldozers or packed down by rollers. Tall stalks (maize, sunflower) may be left in the fields. Or rows of snow fences are put up during autumn planting. The result is that each hectare of field receives and additional 800-900 cubic metres of water next spring.

Regions like the Urals or the Baltic area do not require snow retention. There the problem is to have the snow melt as early as possible. To get this to happen, spring fields are machine-dusted, for instance, by ash. The darkened snow reflects less of the sun, and melts faster.

A cold, snowless winter spells disaster for the central part of the country. The earth will then be deprived of its giant blanket that keeps the soil from freezing. If the temperature of the upper soil layer falls to -30° Centigrade, the seed sown in autumn will die. So the fields have to be resown in spring.

Snow performs another major function. Thaw water is called distilled only conventionally. In fact, it contains a great many chemical impurities and microelements - absolutely necessary stimulators of the growth and general development of plants and soil microorganisms.

Finally, when it melts into water, snow enriches the soil by nitrogen. How does this proceed?

The air we breathe contains 71 per cent nitrogen, but the plants bathing in nitrogen cannot assimilate it directly from the air (with the exception of legumes). Meanwhile, oxygen-repleted and at times overrepleted thaw water avidly absorbs the nitrogen of the air. Nature provides fertilizer for the soil completely free!

The phenomenon was initially noticed by the eminent Soviet scientist Academician Vladimir Vernadsky, almost 50 years ago.

As another Russian couplet goes, with snow in the fields the land richly yields.

SNOW IN MOTION AND MOTION ON SNOW

Natural phenomena like blizzards or snow squalls still pose a danger to even the most powerful means of modern transport. But then, what do these terms signify?

Freshly fallen snow is usually very loose: a light wind (2-4 metres a second) will bring snowflakes into motion. As the wind's speed increases, the amount of snow it carries also rapidly increases but as long as the wisps of snow remain within 20 centimetres from the ground, the phenomenon is called ground snow.

When the wind becomes stronger, the snow reaches a height of several metres. This is known as blowing snow.

The mixture of falling and windblown snow that is rapidly whirling in the air is called drifting snow. Violent winds carrying an enormous mass of snow are called blizzard. When the wind speed reaches 16-20 metres a second there is no telling whether the snow is falling from the sky or being blown off the ground. Visibility is restricted to just a few metres. In the steppe and forest-steppe zones of the Soviet Union, these snow squalls are called *buran* in Russian. As the steppe snow is dry, the wind easily carries it over long distances. Measurements show that violent drifting snow carries up to 10 kilograms of snow over each linear metre of road. Drifts pile up around the slightest obstacle. When they are higher than 50-100 centimetres, they block rail and motor ways.

In the Soviet Union, it costs millions of roubles plus the use of thousands of snowploughs to clear the snow from roads and transport arteries every year.

In recent decades, protective belts of shrubs and trees several rows deep have been planted along practically all roads. Although, in general they adequately

protect against snowdrifts, the method does have its disadvantages: in spring, the immense masses of snow accumulated over the winter damage roads as they melt.

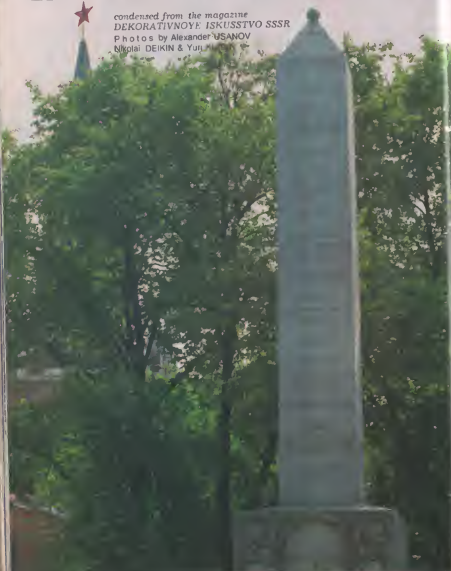
Snow spells trying experiences to the majority of animals and birds. For instance, the exceedingly snowy cold winter of 1939-1940 killed mammoth quantities of birds throughout Europe. However, the wood and red grouse and fritillaries which abound in Soviet forests, scarcely suffered at all: they took refuge in deep snow at night, and fed on the buds of trees in the daytime. However, long periods of snow threaten other birds with mass destruction; common urban sparrows and pigeons are incapable of obtaining food from under covers of deep snow.

Wild animals also depend wholly for survival on the condition of the snow in the forests and fields. If it has a frozen crust cover, reindeer, elk and other hoofed animals will get deeply stuck in it, and fall prey to predators. But if the snow is deep and fluffy, no wolf can pursue a roe or a reindeer, and no fox can chase after a hare. When this happens, it is the beasts of prey which will die of hunger.

Following a winter of travel around the Soviet Union an elderly tourist from Western Europe said: "You know, we also have snow in our country. However, when I saw your *snow* I suddenly for the first time felt and realized the immensity of your country. When I looked at the map before, it somehow had escaped me."

MONUMENTS IN THE SOVIET UNION

condensed from the magazine
DEKORATIVNOYE ISKUSSTVO SSSR
Photos by Alexander USANOV
Nikolai DEIKIN & Yuri K...



In the early spring of 1918 Lenin, the founder of the Soviet state, invited Anatoli Lunacharsky, the People's Commissar (Minister) of Education to his office, to talk about a thought which had long been stirring him. "In his book *Civitas Solis*, Campanella said that the walls of his fantastic city were covered with frescoes which taught the younger generation graphic lessons in natural science and history and evoked civic feelings – in other words, the frescoes aided in the intellectual and moral education of new generations. It seems to me that this is an excellent idea and that with certain alterations we could adopt it for ourselves."

It was decided to set up a commission which would compile a list of monuments to be erected in Moscow and other cities. Next to the names of Marx and Engels – the founders of scientific communism – and those of Radishchev, Pestel, Herzen, Chernyshevsky, Sofia Perovskaya – Russian revolutionaries – were those of Danton, Marat, Saint-Simon, Fourier, Garibaldi, Jaurès, cultural leaders, writers, scientists, musicians . . .

Soviet Russia's first monument – to outstanding thinkers and fighters for the liberation of the working people – was erected in 1918.

The world's first monument to Lenin, the founder of the Soviet state, stands at the Finland Railway Station in Leningrad.



Lenin attached major importance to making monuments, memorial plaques and inscriptions expressive, so they would reach the masses. All that was charted in a clearly formulated programme which was shortly adopted by the government.

On November 7, 1918 the first anniversary of the October Revolution, a granite obelisk with the names of Marx, Engels, Liebknecht, Bebel, Campanella and others inscribed was unveiled in the Alexandrovsky Gardens close to the western wall of the Moscow Kremlin.

Many Soviet sculptors were interested in working on the image of Karl Marx. The world's first monument to him was created by Alexander Matveyev and erected in Petrograd (now Leningrad. - Ed.) in 1919. Following this, monuments to Marx were raised in Kiev, Odessa, Penza, Saratov and many other Soviet cities.

After Lenin's death, the question of immortalizing his memory touched off a nationwide discussion. Some thought it necessary to portray Lenin's physical features with the greatest possible accuracy. Others held that the important thing was to convey the leader's ideas. In those days these

two theories appeared to be impossible to unite in one artistic work. A competition for a monument to be erected in Leningrad attracted some exceedingly unorthodox and even fantastic proposals. However, the first-mentioned trend won the day and the entry of sculptor Sergei Yevseyev was selected. In 1926, on the ninth anniversary of the October Revolution, the first monument to Lenin was unveiled outside the Finland Railway Station in Leningrad. It brought to mind events of the April evening in 1917 when hundreds of people had come to the Station to welcome Lenin on his return from emigration. When he made his appearance in the square dozens of arms lifted the leader to the turret of a nearby armoured car. From that steel platform, illuminated by searchlights, Lenin made a speech in which he proved that it was necessary that the February 1917 bourgeois-democratic revolution in Russia grow into a socialist one.

In those days a popular theory was that art should be an expression of major social concepts. One of the exponents of this view was Ivan Shadr. He felt that sculptures should be everywhere - along roadsides, in the middle of the steppe, on sea coasts and river banks, in the mountains -

The monument to the first pilot-cosmonaut Yuri Gagarin in Moscow, 1961.



reminding people of the progressive humane ideals of revolutionaries.

He was one of the first Soviet artists to create images of working people. His sculptures *A Peasant*, *A Worker*, *A Sower*, were subsequently reproduced on monetary tokens, state-loan bonds, and postage stamps. Practically all his works portrayed concrete individuals. Shadr searched for them in factories and villages and after choosing a specific person, he would

add collective features emphasizing the new characteristics brought to the workingman by the revolution — his awareness of emancipation and inner dignity and his feeling of being the master of his country. Shadr's most successful works are *A Sower* and *Conquering the Land*: the powerful figure of a tractor-driver fused with his machine, symbolizing man's power over nature.

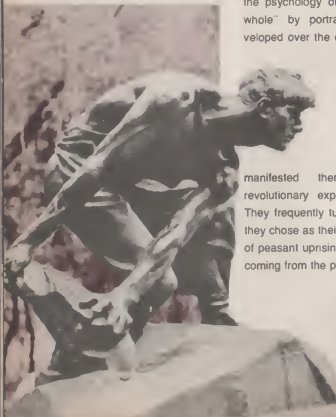
Some sculptors strove to disclose the psychology of "the people as a whole" by portraying qualities developed over the centuries which had

manifested themselves in the revolutionary explosion of the day. They frequently turned to history and they chose as their heroes the leaders of peasant uprisings who, themselves coming from the people, had exhibited

Ivan Shadr's sculpture, "Cobblestone — a weapon of the proletariat", is dedicated to the memory of the fighters of the first Russian revolution of 1905.

integrity and strength of character. An example is the rakish crowd of carved wooden figures by Sergei Konenkov which depicted the 17th-century peasant uprising led by Stepan Razin. It originally stood at the Place of Execution in Moscow's Red Square, where the czar's edicts had been announced

This is the monument to the heroes of the Battle of Stalingrad, the turning point of World War II, standing on the bank of the Volga River.



in the old days, but was later removed since the sculpture, despite its fine execution, failed to fit in with Red Square's architectural ensemble.

As a rule the judgements of the period were uncompromisingly sharp. Monuments which provoked protest due to their unnaturally complicated forms, studied primitivism or formalistic execution were dismantled. Art found itself dependent on the judgement of the masses. For the first time the people entered into a dialogue, and even a debate, with art.

Someone once observed that monuments mark events of the past in order to highlight the present. Today cities and villages throughout the country have obelisks, memorials and

Monument to the developers of the virgin lands in Kazakhstan. Tselinograd. 1977.



monuments raised in memory of those who gave their lives in the Second World War (1941-1945). The Gate of Life is a reminder of the thin thread of ice which linked besieged Leningrad with the rest of the country. Carved wooden giants have been created by master craftsmen on Žveginiiai Hill, where the nazis burned the Lithuanian village of Ablinga. Huge statues in Salaspils near Riga mark the location of a German death camp. A memorial in Volgograd is dedicated to the heroes of the Battle of Stalingrad...

In each monument the theme of war and its cruelty fuses with the theme of triumph since they all celebrate victory and the victorious and each embodies a vigorous protest against war and an affirmation of peace.

Who has monuments erected to them in the Soviet Union today? Those who have unstintingly devoted their lives to the service of their country. As before, these are the great leaders of the revolution, statesmen, scientists, scholars, writers, national heroes, conquerors of outer space and ordinary Soviet workers, initiators of and participants in the major events of today.

Monument to Nii Filatov, "friend of children", one of the founders of pediatrics in Russia. Moscow. 1960.



During the Second World War more than 200 Soviet soldiers flung themselves on enemy gun emplacements in order to save the lives of comrades. The first to give his life in this way was Private Alexander Matrosov in February 1943.

A SOLDIER'S PATH TO IMMORTALITY

by Pavel ZHURBA

from the book ALEXANDER MATROSOV

TASS photo

Through the bushes the commander and the runner intently watched the enormous snow hills under which three German bunkers were sited. Their fierce fire blocked the way to the village of Chernushki, not far from the town of Viliykiye Luki. Battalion Commander Artyukhov clenched his teeth in mortification. For the second day already the battalion had been pinned down. At the slightest movement the entire field was raked by fire. There was nothing that could neutralize the bunkers: our guns were apparently still being dragged through the forest. Nor could heavy battery fire at the bunkers be requested because our battle formations were too close to the enemy positions.

Artyukhov ordered the assault teams of submachine-gunners to

concentrate on the flank bunkers: they were nearer and easier to reach through the bushes. First, the left bunker was to be attacked, then a dash made to the right flank. The assault on the central bunker would come last.

In short swift spurts the submachine-gunners made it to the left bunker and silenced it with grenades. Artyukhov ordered the attack on the right bunker. Several soldiers got through on the right and blasting it with grenades, seized the bunker. Now only the central one kept up the withering fire. One hour later, the men had advanced just a few dozen paces across the scrubland. Some 50 metres of showy field lay between them and the bunker.

"I want six submachine-gunners — on the double!" Artyukhov ordered.

Runner Matrosov rushed to carry out the order, noting where the whistling explosive bullets aimed at him were kicking up the snow.

Artyukhov tensely counted the seconds and, when the submachine-gunners had gathered around him, ordered three of them:

"Try to crawl to the bunker over there, on the right, and hit the embrasure with grenades."

Ready to rush forward at any second, the soldiers of the assault team watched their three crawling mates with bated breath. Matrosov gazed anxiously in the same direction. Soon all three soldiers in their white camouflage robes lay still on the clean snow.

The enemy machine-gun fell silent. Artyukhov turned to the awaiting three soldiers.

Tension brought cold beads of perspiration to the commander's forehead. His parched lips quivered. One agonizing thought ran through his mind: the soldiers were being killed one after another and the lives of the others were also in danger but the goal had yet to be attained. What was he to do? Send more people to their certain death?

"Perhaps we give it another try, what do you say, lads?"

"Right!" came the reply.

They proceeded to crawl further to the right. The bunker roar-



Alexander Matrosov.

ed as ominously and viciously as before. In a few minutes the three lads were cut down by fire.

Then, without waiting for an order, Matrosov said:

"Now it's my turn."

The commander gave a silent nod. An incident from the previous day's fast advance on Chernushki immediately came to his mind. The soldiers had long marched in silence, intent on the distant rumble of guns. Private Darbayev was marching directly behind Matrosov, who suddenly said:

"Why should the fascists have attacked us? Only because we love our land? All they bring us is slavery and death. I will mercilessly kill them as long as hands hold a submachine-gun and as

long as my heart beats in my body."

"You say: 'As long as my heart beats in my body,'" said Darbayev. "And what if you suddenly see a tank rolling at you?"

"Well, a tank is a machine of man's own making. It follows that man is stronger than a tank.



I'd try to cripple the tank, that's all."

"And what if you fail?"

"What nonsense!" frowned Alexander. "Why should you need all these 'ifs'? I'd think of something. Of course, I can see your drift. What a nut you are if you think that I don't want to live! My girl Lina is waiting for me. And I also want to study. Once I was told that some day man will be able to control even the wind and the clouds! Just think how fascinating that is! I'd like to become an engineer..."

Matrosov crawled through the bushes to the side, as if not aiming for the bunker at all. Hugging the snow, he rapidly crawled forward.

Bullets riddled the snow, now in front of him, now behind him. He manoeuvred. When the fire was off-target, Matrosov swiftly crawled forward. When the bullets were close, he froze in his tracks.

The bunker was already only a grenade's throw away. Lying on his side behind the tussocks and juniper shrubs, Matrosov pulled out the grenades and, standing on one knee, hurled them one after another. They exploded at the very embrasure. For a minute the machine-gun chatter ceased. Then it began anew. But Matro-

Monument to the hero soldier in the town of Veikkioye Luki.

sov was already playing a winning game. While the grenades had burst and the Germans hesitated, he made several leaps forward and dropped to the snow again. Then he crawled on, sheltered from the fire by the low shrubs and tussocks. The bunker was very near.

Matrosov rose on one knee again and fired a submachine-gun burst at the embrasure. An explosion in the bunker sent thick smoke streaming out of the embrasure (later it was discovered that the bullets had set off a mine).

Matrosov jumped to his feet, drew himself up to his full height and raising his submachine-gun aloft called to the men lying on the snow, impatiently awaiting the assault, "Follow me! Forward!"

And he dashed towards the bunker.

However, the enemy machine-gun which had fallen silent came alive again, pinning the soldiers to the ground.

Matrosov was now so close to the bunker that he could smell its smoke. He couldn't advance but he couldn't stay put either. Who can know what he thought about? Most probably, he thought there was no going back, that retreat was now tantamount to death and disgrace, that he might never rise again, like those

six before him, but on the other hand, there could be no holding back, he had to advance, to fight for the lives of his friends, for victory.

Waiting until the machine-gun fire was directed away from him, Matrosov jumped up - but he didn't have a single grenade left and he had run out of ammunition. He made an abrupt jump to the right, another to the left, sidled forward, ran up to the smoke-blackened embrasure and fell with his chest on the spitting muzzle.

The machine-gun choked and fell silent. For a second it grew so silent that the rustling of pines could be heard and the stilled din of battle rang in the ears. Without waiting for the command, the soldiers rushed to the bunker. A minute later the hand-to-hand fighting was over.

* * *

Alexander Matrosov's life ended when he was 19 years old.

Alexander was born into a working-class family in 1924. He lost his parents in early childhood and was raised in an orphanage. In his teens he worked at a variety of jobs. Alexander volunteered for the front in 1942.

Private Alexander Matrosov was posthumously awarded the title of Hero of the Soviet Union.



The country could have
accomplished much more, had it
not been invaded by fascist
Germany in 1941. The fascists
brought blood, grief and suffering
to our land. The desire of
freedom demanded the
courage and staunchness of all
peoples of the USSR and cost 20
million lives. A people who lived
through this nightmare
understands better than
anybody else the
thoughts and feelings of the
peace crusaders
who travelled along the Soviet
Union's roads last
summer.



STRIDES ACROSS CENTURIES

The Cultural Life of the Soviet Nations and Nationalities

by Mikhail SUKHANOV, journalist

condensed from the magazine DRUZHBА NARODOV

"I have clear memories of the *yaranga** which stood on the very coast of the Arctic Ocean. It was where I was born. And my life would have been not one bit less severe, ignorant and grueling than that of my parents and grandparents had I not been born in the happy period ushered in by Russia's October Revolution, which brought Soviet power to the North. It came at just the right moment: hunger, disease and brutal exploitation had steadily led the Northerners towards extinction. The Soviet Government immediately adopted measures to stop this dreadful process. Its nationalities policy was based on the assumption that because every nation in socialist society must develop equally, even the most backward people must have

all the conditions for all-round cultural advance.

"Defying the hardships of our grim part of the country, Russian teachers came to the North to teach at general and boarding-schools, with instruction in the local non-Russian languages. Many of the Northern peoples acquired a writing system. The first clubs and libraries appeared in the Northern townships. Each morning as I went from my *yaranga* to school, I, so to speak, strode across centuries. When I came home in the evening, I found my parents praying to God to give them success in their hunting, to grant good weather. Meanwhile, making myself comfortable beside them, I read Pushkin, Lermontov and Mayakovsky, enthralled by the magic of the words..."

This was written by Yuri Rytheu, a leading Chukchi writer whose novels have been translated into 40 languages.

Now many of the indigenous Northern peoples have become doctors, teachers, agronomists, geologists and engineers. No one is surprised to encounter a college- or university-educated person. Yakutsk University alone has over 7,000 students.

It was in the distant 1920s that the cultural revolution began. In the hungry and severe early Soviet years, Lenin called for the channelling of at least 50 per cent of available resources into the anti-illiteracy campaign. Forty of the USSR's more than 100 nations and nationalities had no written languages of their own at that time. The old world had left its appalling legacy of backwardness and barbarism. Here is a brief quotation from an 1876 issue of the journal of the czarist Ministry of Public Education: "Put a language into writing, give it some literary form, introduce it in schools, and you will thus (dreadful to say!) endorse and develop the appropriate nationality."

However, what exponents of the czarist autocracy found "dreadful to say" was the policy of the Soviet state. To the most distant corners of the country - Chukchi nomad camps and the mountain villages of the Caucasus, the Altai and the steppes of Kazakhstan - came scholars, ed-

ucators and ethnographers. Dozens of expeditions were sent out to study the local tongue and teach the local people to read and write in their own language. It is hardly possible to imagine the formidable difficulties presented by the creation of written languages for previously non-literate peoples - something unprecedented in history. The fact that this undertaking was recognized as of state importance was shown by the institution of a special All-Union Committee for New Alphabet in Moscow, with sections in each republic and autonomous region. Besides, the Republican Soviets of People's Commissars set up institutes of language and culture, which were to become part of many subsequent academies of sciences of the Union Republics and branches of the USSR Academy of Sciences in the autonomous republics.

In East and West alike, keen interest has been evoked by the new novel *A Stormy Station* by Chinghiz Aitmatov, a 53-year-old Kirghiz writer who is read around the world (130 editions in 50 foreign languages in a total print of almost 10 million copies). Many countries have concluded contracts with the Soviet Union for the translation and publication of this novel, and another 12 works by Kirghiz writers.

* The Chukchi word for the tent of some Northern peoples formed by a vertical wall with a circle at its basis and a conical roof of poles covered by reindeer skins. - Ed.

Meanwhile, the "official birthday" of Kirghiz written literature was November 7, 1924, when the first issue of the newspaper *Erki-Too* (*Free Mountains*) appeared. Two years later Frunze, the capital of the republic, saw the first book published in Kirghiz.

If asked what leading scientists and writers of his country he could list, anyone in the USSR would name - alongside Russian - many others, including in all probability astrophysicist Victor Ambartsumyan of Armenia, metallurgist Boris Paton of the Ukraine, mathematician Nikolai Muskhelishvili of Georgia, and chemist Abid Sadykov of Uzbekistan. Books by the Byelorussian Ivan Melezh, Tajik Mirzo Tursun-zadeh, Kazakh Mukhtar Auevov, Lithuanian Jonas Avizus, and Azerbaijanian Mirza Ibragimov are very popular. Soviet writers and poets can be read in the languages of 77 Soviet nations and nationalities. Plays are produced in 45 languages of our country. Periodicals appear in 55.

Peoples which before the October revolution had no idea of theatre, professional music, ballet and painting now create talented works which in terms of artistic level are abreast of the times.

Within an unprecedentedly short historical period, backward

outlying non-Russian areas caught up with central Russia as they entered the stage of socialism. The large nationalities (Kazakhs, Uzbeks, Turkmens, Kirghiz, Tajiks, etc.) evolved into nations. There is an unprecedented process going on - that of the cross-fertilization of cultures, whereby the achievements of one people become common achievements. The process has been vividly described by Rasul Gamzatov, an Avar by nationality and People's Poet of Dagestan (a republic in the North Caucasus): "We know that all rivers on earth are different, and that each has its own character. But, by emptying into the sea, they all contribute to a single whole. Our multinational Soviet culture is an ocean made up of different rivers with the only difference that the character, idiom and national colouring of each culture, instead of becoming blurred and lost, sparkle and shine with all colours of the rainbow."

In the Soviet Union, the concepts of equality, fraternity and the friendship of the peoples are the constitutional foundation of life. The evolution of socialist nations has led to the formation of a new historical entity of peoples - the Soviet people. The sense of belonging to this "single family" is one of the basic achievements of the multinational Soviet state.

The Soviet Union has 80 million workers and 13.2 million farmers. A quarter of the labour force is doing or is connected with mental work. A comparison of appropriate figures contained in the 1970 and 1979 censuses reveals that as far as the numerical growth of intellectuals is concerned, the pace-setter is Uzbekistan. The most "educated" republic is Armenia, where 891 people per 1,000 in the labour force have a secondary or higher education. The all-Union figure is slightly lower - 833.

For women the figure is 829 per 1,000 workers, compared with 837 men. In 1939 the ratio was glaringly against women (104 as against 136), while 60 years ago the figures were simply incomparable. In Soviet Central Asia and Kazakhstan there were practically no women with higher education then.

In 1981 and 1982 the Soviet Union had 100.5 million people taking some kind of courses. Of these, 9.9 million attended colleges, universities and specialized secondary schools. There are 4,393 such schools and 891 centres of higher learning in the USSR.

The Soviet Union has 329,000 libraries with a total of 4.7 billion volumes. Every year 4.2 billion tickets to films are sold.

In 1965 only four per cent of the country's population had a monthly income of more than 100 roubles per family member. In 1981 the figure exceeded 50 per cent. Prices of the staples and most services were unchanged.*

In the past 15 years, 160 million Soviet people have had their housing situation improved: homes with a total floor area of 1,591 million square metres have been built. Rents have not gone up since they were fixed in 1928, six years after the founding of the Union of Soviet Socialist Republics. Utility rates are what they were in 1946. On the average a Soviet family pays only 2.7 per cent of its income for rent.

In 1982 the real incomes of the Soviet population increased by over three per cent.

* According to the current exchange rate, one rouble equals US \$ 1.35. - Ed



The overwhelming majority of people inhabiting the Russian Empire were illiterate before the Revolution of 1917, and small peoples did not even have their own written languages. Hundreds of thousands began learning their ABCs by the new primer, "We are not slaves!" they spelled out. Today these barefoot boys may be grey-haired professors teaching thousands of students, including, perhaps, those coming here from foreign lands in order to get an education and be of use to their peoples.



Personalities in the Soviet Arts

Talent should bring something new, but in our day it is not easy to break away from the mass stereotypes of the variety stage, and few performers succeed in doing this.

New Stars on the Variety Stage

Four singers won the All-Union Competition of Young Performers of Soviet Song held in the Ukrainian city of Dnepropetrovsk in 1981 - Olga Pirāgs of Latvia, Gintare Jaūtakaite of Lithuania. Tamara Gverdtsiteli of Georgia and Erna Yuzbashyan of Armenia. They also triumphed at the International Red Carnation Youth Festival in Sochi, a Soviet resort centre on the Black Sea.

*condensed from the magazines
SMENA and MOLODOI KOMMUNIST*

Photos by Vitali ARUTYUNOV



Olga Pirāgs.

Each of the four winners exhibits an intense individuality.

Olga Pirāgs of Riga has a relaxed but confident performance style. Her medium is jazz, however, she is not among those vocalists of her genre who attach exclusive importance to rhythm, assuming that what they sing is not so important. She always strives to bring home to her

audiences what the song is about by emphasizing its depth of content and emotion. She does not perform fashionable hit numbers which are frequently played on the radio and recorded. She has her own theme - the difficult, at times tragic periods in human life which come with unrequited love, misunderstandings and loneliness. Her songs are addressed to people who already



Gintare Jaütakalte.

have some life experience.

Olga is 27 years old, married and has a four-year-old daughter Lana. For the past several years she has been a soloist with the Latvian Radio and Television Orchestra of Variety and Light Music. However, her path to the stage was an unorthodox one. She had not planned to become a professional singer. After graduating from a teacher training

college, she taught school, and in the evenings performed with an amateur ensemble in a recreation centre. There she was noticed by prominent Soviet composer Raimonds Pauls, who is known for his interest in promoting young talent. Olga has introduced many of his songs, which later gained wide popularity.

Pauls says: "Along with the composer and poet the song is

created by the performer. Olga Pirāgs is my co-author. I can always be confident that, instead of killing the song, she will enrich it by her talent and personality."

Today jazz is sometimes dominated by a fairly free rendition of the music. In contrast, this Latvian vocalist precisely "sings out" each song, emphasizing its melody and thus enhancing the rhythms by her soft lyrical intonations.

Gintare Jaütakalte of Lithuania prefers an entirely different style of singing. Endowed by virtuosso coloratura she amazes audiences by the ease in which she sings the highest notes. Unlike Olga, Gintare does not "sing out" her melody. Instead, she tries to break free of it, using the song as merely the basis for conveying something of her own which begins as soon as the orchestra starts to play. Frequently she sings without accompaniment. At the competition, her soft delicate voice, pure as wellspring water, won all hearts when she performed *In a Village Cabin Room*, by Alexander Moroz, a song about maidenly anticipation of love on a quiet village night, and about the joy of communion with nature.



Erna Yuzbashyan.

Born into a family of musicians, Gintare was taught singing by her mother. The girl was heard by young Lithuanian composer Mindaugas Urmaitis, who asked her to record two of his songs for the radio. She was then only 14 years old. Three years later she sang the lead in his rock-opera *The Skylark*. On finishing music school Gintare entered the Jazz Department of the Vilnius Conservatoi-

Tamara
Gverdtsteli,



re. For the last few years she has been singing in musicals in the Kaunas Musical Theatre and giving frequent performances on Lithuanian Television, where she conducts a popular youth programme, *Debuts*.

Gintare recently turned 24. In addition to being a singer she is known as an author of songs and jazz compositions. She also draws. Recently, she appeared in

several films and, interestingly enough, they were dramatic rather than musical. She is a woman of many talents and which of her artistic interests will win the day still remains to be seen.

Twenty-five-year-old Erna Yuzbashyan has a low, slightly coarse voice. On stage she invariably wears a black dress. Her entire

make-up suggests strength and passion, and also something mysterious and puzzling. Quietly, as if talking to herself, she begins a story about thwarted love. "My darling, what have I done? Yesterday you looked at me with love and now you turn your eyes away..." Yuzbashyan's songs are full of empathy and she staggers her audiences by powerful emotions, and feelings which carry her vocal expression almost to the limit.

She performs ballads, best of all, which reveal man's complex inner world.

Erna started on her stage career as a soloist in an amateur musical ensemble. Then, when she was studying in the choir conducting department of a music school, she met Robert Amirkhanyan, a wellknown composer in Armenia. Work with this searching musician, who experiments in fusing rock and classical music and strives to bring the song closer to a dramatically accomplished vocal-symphonic piece, helped the young vocalist find her unique identity on the stage.

The youngest of the four stars is 19-year-old Tamara Gverdtsteli of Tbilisi, the capital of Georgia.

Lithe and slender, with elation in her voice, she radiates sunny joy. A flower suddenly bursting into song would be an accurate definition of Tamara.

When she had just turned seven she was accepted in the children's vocal group *Mziuri*, very popular in the republic. She liked performing on stage and singing in general. It is *Mziuri* that gave Tamara her spontaneity, the "childish" touch to her singing and the note of elation to her voice.

On finishing secondary school the girl, contrary to everyone's expectations, entered the piano - not the vocal - department of the conservatoire. However, she continued to sing, giving solo concerts and recording several songs with the Georgian Radio and Television Orchestra.

"I am doing a bit of composing myself", confessed Tamara, "and have serious plans for going into it professionally. I also have an attachment for Georgian folk songs and folklore in general. In keeping with our historical tradition, they are performed mostly by men, however, at home, with my family, I always join in. This gives me no end of pleasure." **5**



By the Water's Edge

a fantasy

by Olga LARIONOVA

from the book
A FAIRY TALE FOR KINGS

Drawings by Pavel DENISOV

He was about 1,500 kilometres above the surface, but Sergei Volokhov was still not certain if the planet was inhabited by humans or not. He had sped past three small satellites that looked like artificial ones, but there again he wasn't sure. His main concern was to land as soon as possible, and then he would see.

He touched down about 100 metres from the water's edge, and for a half-hour sat watchfully, to see whether or not the soil under his machine would give. But the instruments insistently indicated that the ground was firm, that the air was fine for breathing and that lots of other things were just perfect. According to them, he could step out without wearing a spacesuit. And he would have done so if he were not alone in the spaceship. But now, after the landing had gone so smoothly, he was unwilling to take any chances.

The surface around him was rather curious, if "curious" is the right word, for what he saw around him were huge dunes of pure emerald sand. "Some land!" Volokhov thought. "Some riches!" Those were not real emeralds, of course, but there were plenty of copper compounds in that sand, and lots of polymetallic ones, too. If there were humans on that planet it was strange that, given all that wealth, they hadn't invented a simple flying machine. "But never mind," he thought. "We'll teach them. We'll build a giant metal-making plant for them." But before that, he had a much less complicated task – to repair his interplanetary communications system.

Volokhov turned to climb back into his ship, but just then he noticed a barefoot girl walking towards him ankle-deep through

the green sand, down a dune, away from the sea. Her dress consisted of two pieces of white fabric clasped at the shoulder with two emeralds, each of which would have cost a fortune back on Earth.

She stopped in front of him and said something in a high-pitched, angry voice. He smiled. She talked again; now it was separate words, each with a rising inflection. She must have been asking where he had come from – from what city or what land.

"From the stars," Volokhov said, pointing upwards. The girl looked up and frowned as if trying to recall something.

"Zendzee?" she asked hesitantly.

Volokhov didn't know what to say. Persistently and didactically, the way little girls talk to their dolls, she repeated two words. They were evidently the same words, but each time she said them in a different language. A total of ten times. A young girl speaking ten languages? No, not likely...

This one-sided conversation was obviously getting on her nerves. She waved her hand with disappointment and then, suddenly stepping towards Volokhov, put her arms round his neck. Volokhov stood dumbfounded. From her touch the synericlon material of the spacesuit gave a thin, scraping sound. And suddenly Volokhov felt a rush of

thick, hot air under his pressure helmet. Involuntarily, his hands jerked up, but the girl anticipated him: rising on her toes she reached up and pulled the helmet off.

Volokhov felt the thin, strong fabric of his spacesuit. He passed his hand along the seam which could be parted only by a special impulse. The seam was intact. But above it he felt a sharp edge: the synericlon had been cut through – a fabric that could not be cut either with a diamond tool or a laser beam.

"What have you got in your hands?" Volokhov shouted, completely forgetting that she could not understand him.

"M-m?" she asked.

"Hands!" he shouted again, showing her his hands, palms up.

The girl regarded his hands with curiosity, and then with a similar gesture stretched out her own hands.

There was nothing in them.

"Hands!" she suddenly said clearly and with the same insistent intonation. "M-m?"

She raised a hand.

"Hand," Volokhov said. "One hand."

The girl nodded, then brought her hand up to her mouth and moistened a finger. Before Volokhov could bat an eye, she swiftly stepped towards him and passed two of her fingers along his spacesuit, from top to bottom. Slowly the spacesuit opened and fell to

the ground. Volokhov pulled out one foot, then the other, leaving the spacesuit on the sand.

- "M-m," the girl said with satisfaction. "Hand. Hands."

"Foot," Volokhov volunteered. "Feet. Head, eye, mouth, nose."

The girl repeated everything carefully. Volokhov looked back. "Spacesuit," he said, pointing to the rags of syntericon. "Or rather what used to be a spacesuit."

She no longer repeated words after him. Her hand flitted from one object to the next, never touching anything twice. Soon the vocabulary relating to parts of the body and clothing was thoroughly covered. Volokhov thought of checking how well she had learned her lesson, but then decided not to. He had to make her understand somehow that he wanted her to go and bring some adults.

"Walk," he said and started down the slope. "Run," he said, starting to run. She ran beside him.

"Sea," he said, stretching his hand towards the sea.

The girl stopped.

"Stand," she said, dropping her hands and raising her chin cutely. "M-m?"

"I stand, you stand, we stand," Volokhov said, pointing his finger eloquently.

"M-m," she said with satisfaction. "I sit, you sit, we sit. Space-suit?"

"The spacesuit lies." After what

she had done to the spacesuit he was no longer amazed at anything. "Yes, the spacesuit lies."

"Me, you, we, it. You - m-m?"

Volokhov understood.

"Me - Volokhov," he said.

"Me - Phirat," the girl responded.

She turned and walked towards the sea. She sat down so that her bare feet lay at the edge of the surf and rested on the damp sand. Right away water began collecting in the depressions made by her heels.

Volokhov sat down beside her. Something had changed. It had changed from the moment she had told him her name. Up to that moment he had only been thinking that it was necessary to repair the interplanetary communications system and to impress upon the girl that he wanted to talk with adult natives, not with her, and so would she please go and bring some? Also, he had been trying not to think about his severed spacesuit. And now he suddenly realized that the communications system could wait, and so could his communication with adult natives, the procedure for which had been carefully elaborated and which was to take place in an impossible hybrid of all languages known on earth plus mathematics, a hybrid produced through much strenuous effort by countless laboratories under "first contact theoreticians". He realized that



all that was not so important now, that it could wait.

The most important, most interesting thing at the moment was Phirat's closed hand in which she was holding something. Slowly the hand opened and on its brown palm he saw some greenish sand.

"Oh, it's sand," he said with a degree of disappointment.

Quickly Phirat closed her hand and opened it again. He willed himself not to be amazed and he was not when he saw a dead, dried-up crab, a bit of blue seaweed and, finally, a little goldfish, its fins fluttering helplessly. He named it - "goldfish", but the next moment Phirat turned its colour into black, then white; patiently the fish passed through the entire spectrum of colours and

as a reward was let out into the sea.

Volokhov suddenly realized that he had been sitting on that desolate shore for an awfully long time, deceived by the slow motion of the sun there, which was still climbing, whereas back on Earth it would have been long after sundown.

- "It's hot," he told Phirat. "We'd better find some shade."

"Green shade - good?"

"Green shade, blue shade, black shade - all good."

Phirat looked at him with such amazement that Volokhov was convinced that they did not understand each other. Meanwhile, Phirat put two fingers into her mouth and gave a piercing whistle. Involuntarily Volokhov

grinned - this was so boyish and earthly.

Something green rose up from beyond the farthest dune and swiftly flew towards them. At first Volokhov thought that it was a small flying machine, then - that it was a bird. When the thing got nearer, he saw that it was a creature resembling a devilfish.

The creature peeped plaintively.

"It is afraid," Phirat said, turning to Volokhov, and laughed.

She began talking to it in her strange tongue, sounding gentle and instructive. The creature waved the edges of its flaps and, approaching shyly, hovered over their heads, casting a cool green shade.

At once it became easier to breathe.

"That's nice," Volokhov said. "But I must get back to the ship. To make repairs."

"To make repairs?" Phirat asked, her forehead puckering with discontent. "Talk so I can understand."

Volokhov looked around helplessly. He picked up a stick that lay on the sand.

"My ship," he said, brushing some of the sand flat and drawing the contours of his spaceship, which were quite recognizable. "It's out of order."

She snatched the stick out of his hand and began drawing quickly - some interrupted lines

radiating in all directions from the ship.

"Oh, you mean radiation," Volokhov guessed. "No, don't be afraid. There is no radiation. The action principle is different."

The girl stood up and issued a long, guttural call, as people shout when they want their cry to carry as far as possible. Whoever or whatever the call was meant for rose from the dune nearest to the shore and headed for them at an easy lope. Volokhov jumped up and instinctively placed himself protectively between the girl and the advancing creature which by its shape and snow-white coat resembled a polar bear and by its muzzle and flapping ears - a huge Newfoundland.

The animal stopped right in front of Volokhov, who was still courageously protecting Phirat with his body, inclined its shaggy head and laughed. It was a sincere, good-natured, human kind of laughter, and as the animal laughed, golden sparks danced in its eyes.

Phirat talked to the animal severely. Volokhov did not understand what she said, but it all sounded as though she was telling the animal: "There's no cause for laughter, there are serious things to be done."

She said something else, gesturing briefly towards the spaceship. The animal looked where her hand was pointing, shifted its gaze to Volokhov, opened its

mouth and then, speaking distinctly, uttered a few words. Then it suddenly turned and, taking enormous leaps, raced off across the dunes.

"So it can speak?"

"Of course," Phirat replied, somewhat surprised.

"How come?" Volokhov persisted.

Phirat shrugged her shoulders.

"I speak, you speak, it speaks..."

He had to take that for an answer. In a short while the animal returned. It did not say anything, just nodded as if indicating that they could proceed to the spaceship.

Phirat took Volokhov's hand and they headed for the ship. Swinging its head rhythmically the animal moved alongside the girl. For some time she walked with one hand on the animal's shaggy head, but soon she tired of that and leaped effortlessly on to the animal's back. It continued as if unaware of its burden.

"Father", Phirat said, and Volokhov saw a group of humans emerging from beyond the shining body of his spaceship. Walking faster, the man who led the group approached Volokhov. They met by the entrance ladder.

The man, swarthy, with black eyebrows, looked very much like Phirat. But then all the others in the group were just as swarthy and resembled one another. They looked as much alike as penguins

do to people, and, probably, as people must seem to penguins.

The man who reached them first, nodded to Phirat, and she responded by bending her head low. He then patted the white animal on the head and, in a similar gesture, patted Volokhov's shoulder. Obviously, words of greeting were considered superfluous here, and so Volokhov bent his head the way Phirat had done and let his hosts ask their questions first.

However, the men asked him no questions. One by one they came up to Volokhov, touched him on the shoulder and gave very broad, friendly smile. And that was all. Volokhov started to look for the man who had arrived there first and whom Phirat had called Father, and he saw him climbing the ship's entrance ladder. Volokhov stepped forward, intending to follow the man, but he felt Phirat's deft fingers firmly holding him by the wrist.

"Don't," the girl said. "You don't. They don't understand you."

"Fine business that," Volokhov shrugged. "How are they going to understand anything then?"

"They will understand your ship. Ship's language can be understood by all."

"But you understand me."
"They have no time to learn to understand you."

About half an hour passed.

Suddenly the lower rungs of the ladder began to swing. Look-

ing up, Volokhov saw his voluntary helpers quickly descending. Then, one by one, they approached Volokhov with a friendly smile and again patted him on the shoulder. First him and then Phirat's white animal. After that, walking in a single file, they disappeared beyond an emerald sand dune.

"That's all," Phirat said. "Now you can fly. The ship was not out of order. It just... didn't obey. Fly away now."

There was neither sorrow nor bitterness in her voice. She turned and quietly walked towards the sea...

He caught up with her near the edge of the water. When he called out to her she did not look back.

"Wait, Phirat. You didn't even ask where I was from. Perhaps, some time your father or those who were with him will want to come to us on Earth, the planet I come from. You can do that, can't you?"

Phirat shook her head slowly.

"They are all too busy. There," - she waved towards the mainland, "and there," - she stretched her hand upwards, pointing towards the sky.

"Perhaps later, when you've grown up?"

She shook her head again.

"We have no use for your planet. Why, you can't even..." She did not know the right word, and

she flicked her fingers as people do when they are trying to recall something. Suddenly, huge, fluffy snowflakes, the size of a large lily, began fluttering out from under her fingers. They melted before they reached the sand. Then Phirat's fingers began to acquire a bronze tinge, and soon they glittered like pure gold. She struck her hands and a deafening peal, as though from a tremendous gong, rolled over the sand.

And the next moment the girl's hands were as they had been.

"You can't do that," she said quietly, sounding apologetic. "You can't..."

"Perform miracles?" Volokhov prompted. "It's true we can't do that. And yet, if you can only manage, do come to us, to Earth. We have no miracles. But we have a sun - not like yours, pale as a silver coin; our sun is the colour of gold, like your palms were five minutes ago..."

They were walking slowly along the narrow strip of sand washed by the sea, and Volokhov kept on talking, sometimes stooping to draw something on the damp, closely-packed sand. He would then step over his drawing and walk on, again telling about Earth - its seas that range in colour from purple to milk-white, its mountain tops turning scarlet at sunset, its moonlit heights along the waters of slumbering rivers, and its skies, pale azure before daybreak.



"Volokhov," the girl said, stopping suddenly. It was the first time she called him by name. "Please don't. Fly away."

Yes, of course she was right. No amount of talking would change anything. He would never see Phirat again. They had no use for

Earth, she had said. But telling her about Earth for so long had given him back his confidence, and now, that it only remained for him to turn and head for the ship, he suddenly felt that all those miracles of hers were of no account - neither the severed

spacesuit, nor the palms of gold, nor anything else. She was just a barefoot girl named Phirat whom he was leaving there by the sea at the edge of an unknown land and would never meet again. He bent over her, and she did what any girl on Earth would have done: she closed her eyes.

Her lips were rough and very dry - so much so that he wanted to feel them with his fingertip to see whether they really could be so rough and so dry. But he only passed his hand along her tousled hair, separating a long, thin strand and sending it round her brown neck. She still hadn't opened her eyes.

Volokhov stepped back, turned and headed for the ship. Behind him Phirat stood motionless, her arms drooping, her eyes closed...

The sun grew bluish-grey and, before it reached the horizon, began slowly to dissolve in the ashen haze rising from the surface of the sea which cooled towards evening. The sand under her feet became quite dark. Phirat took a few steps and stopped again. No, she simply had to find what she was looking for.

Kneeling, she began groping about the damp sand. Noiselessly, the surf stole up and touched her fingers. She heard the footsteps only when they were very close. Looking up she saw her father.

"Why didn't you go back to town?" he asked.

Phirat only bent her head forward.

"Well, speak up."

"Why did you let him go, Father?" she said. "How could you let him go like that? How could you - so wise, so experienced and all-knowing - have failed to realize that he was just as human as you and me? It was easy for me to make that mistake, for I still know very little. I took him for a sapient animal, like all of my speaking animals. Besides, he himself told me that he could not, as he called it, perform miracles..."

Phirat started to cry.

"And then he told me about the planet from which he had come," she went on. "I understood everything then, but now I can't remember a single word. When I first saw him I addressed him in the languages of ten stars, and he knew none of them."

"Then what happened?" her father asked cautiously.

Phirat hung her head even lower.

"When it was time for him to go, he bent over me, placed his hands on my shoulders, and then our sun, our small pale sun, suddenly became huge and golden-coloured, as though it had absorbed all the gold of the stars. And, oh, Father! - everything in this wide world changed, everything became different."

It was already quite dark, and the invisible waves were creeping up to Phirat's feet. The high-water tide had begun.

"Somewhere here on the sand, by the water's edge, he drew a diagram for me - how to find his planet."

She stretched her hand, and a

small, dim, greenish light appeared in her palm. She blew on it to become brighter and, raising her little miracle above her head, walked on along the strip of damp sand, washed flat by the tide.

Translated by Anatole KRYZHANSKI

3

COLLECTION OF ANIMAL VOICES

Over 15 years ago, students and teachers at Moscow University's Biology Department began collecting voice samples of all animal species. This unorthodox collection now exceeds 3,000 vocal fragments of birds, amphibians and insects, including ants and fish. Why is all this necessary?

The collection has been found useful by doctors, who apply animal sounds for therapy with insomniacs. Nature's noises have a beneficial influence on the reflex processes in the human brain.

Soviet wildlife sanctuaries and zoological stations send recordings to the University. The collection has also grown thanks to exchanges with research institutions in other countries. Five large discs have come from New Zealand, and another three from the German Democratic Republic.

From the newspaper VOZDUSHNY TRANSPORT

WITH A WRY GRIN

Fashion comes and goes. Suckers remain.

In the pursuit of happiness, it is not speed that is important, but choice of direction.

Many close their eyes so as to see everything in a good light.

From the magazine CHAYAN

The 45-year-old USSR State Folk Dance Ensemble founded by Igor Moiseyev enjoys legendary popularity. Perhaps the only place it has not visited is the Antarctic.

ITS FAME IS AS WIDE



AS THE WORLD

Any story about any eminent figure in the arts usually begins with the recollection that his grandmother had a fairly decent voice when she was young, that his mother played the piano and that his father was an amateur ac-

*from the book
LIFE IN THE DANCE*

Photos by Andrei KNYAZEY,
Alexander NEVEZHIN & APN



ventured as far as Central Asia and the White Sea coast.

As he walked through the Caucasus, night would overtake him at some mountain pass. Shepherds would invite the young man to their campfire. As they sat round the flames, they conducted an unhurried conversation. At dawn the traveller would be back on his way. At first glance, it is an ordinary hiking story. However, with time the Moiseyev-choreographed dance *Karabakh Shepherds* would breathe the fragrance of the life of the Caucasian mountainfolk - a life fused with nature. Spectators

Scene from choreographic suite "Festival in Kirghizia".



would feel the cragginess of the cliffs, the weightlessness of the limpid air, and the beauty of the people doing ordinary work.

However, this was all to come later. Meanwhile, Igor went to school. His parents, seeing that their son was growing to be a sturdy physically-robust lad with a good deal of free time after studies, almost against his will sent him to a dance school which was then popular in the Ukraine. Suddenly, the movements, rhythms and music inspired the young man. A year later he left Kiev to go to the illustrious Moscow Choreographic School. Moiseyev's natural gifts were found so prodigious that he was enrolled straight in the fifth form.

Gypsy dance.



Latvian dance.



When he finished the school the young dancer's abilities earned him a place in the Bolshoi company. His roles in many classical performances led to popular acclaim. However, they fell short of bringing him satisfaction. The increasing pressure of academic traditions moved him to want to create a new choreography. In 1925 a group of ballet dancers,

among them Moiseyev, published a letter criticizing the Bolshoi Theatre directors for "conservatism". For Moiseyev, this "youth rebellion" ended in suspension from dancing. However, he stubbornly pursued his daily exercises in classical dance to maintain his fitness, and he spent evenings in the Historical Library studying the history, culture and

Ukrainian dance
"Gopak".



Slovak dance.



national traditions of the Soviet peoples. Gradually, Moiseyev evolved the idea of founding a basically new folk dance ensemble.

In 1937, when the scheme was finally materialized, not everyone

Old
Russian
dance.



Bashkirian dance.



Quadrille from choreographic suite "Pictures of the Past"



People's Artist of the USSR
Igor Moiseyev.

Kalmyck riders. All these choreographic scenes were taken straight from life. At the same time, each of them was genuine theatre.

To former ballet-masters, folk art was only a source of material. Moiseyev, in contrast, enriched folklore with the entire arsenal of the professional media - direction, composition, and artistic design.

immediately understood that this young choreographer was boldly breaking down the boundaries dividing classical ballet from folk dance, and creating a special artistic genre. Audiences were thrilled by the Russian dances, the devious patterns of Ural quadrilles, the sparkling of warriors' daggers in the ancient dances of the North Caucasus, and the lightning-fast race of the

The total distance covered by the ensemble is far greater than the distance from the Earth to the Moon, and its total audience embraces millions of people. Many groups like that of Moiseyev have now sprung up abroad; to some of them this celebrated 76-year old Soviet choreographer - a recipient of 13 orders from other countries - gave assistance himself.

Dialogues with Past and Present

Notes from the exhibition
of several Moscow artists

by Alexander KAMENSKY, Professor of Arts

from the magazine YUNOST

Photos by Lev MELIKHOV

It was probably the most talked about and controversial show of the last few years. Works of 23 major Moscow artists and sculptors were the subject of debates which centered not so much on their form and style as on their interpretation of history and contemporary life.

The first impression was that the exhibition of extremely dissimilar and strikingly original artists had been organized solely on the basis of their belonging to the same crop of talents that appeared on the scene in the 1970s. No other common denomination seemed to be in evidence. But after a second or a third look at the collection, housed in the new Moscow exhibition hall, a certain, vague, bond between the works began to emerge.

To start with, they reflect an acute and dramatic power of perception which is neither morbid

nor emotionless. On the contrary, it is tense, opinionated, dynamic and actual.

The works have another shared distinction: a keen sense of history, and a multidimensional dialogue with the past.

The show presents a wild interplay of intricate messages and subtle meanings and the viewer finds himself entangled in this web of appeals to his imagination.

Natalya Nesterova is probably the greatest challenge in this respect. Her paintings, innovative



"Dedicated to the memory of my Grandfather - Red Partisan." This inscription on top of the picture is the key to its content. The ideas of the Great October Socialist Revolution live on in Soviet people's hearts and minds from generation to generation.
Xenia Nechtalio. "Remembrances of Revolution." 1960.



Tatiana Nazaraniko. "Pugachev."
Detail. 1960.

in their compositions, are of a symbolic nature. She paints ordinary things - subway stations, street corners, and open-air cafes

- and the subject matter seems simplistic too - get-together, strolls, audiences, etc. But these scenes and settings are not copies of life - each of them is a free improvisation. The characters represent ideas, act as masks assigned



Victor Kalinin. "Ash.
In memory of burnt villages
during the last war." 1979.

to express certain intangibles. They are generally nice to look at and the activities these masks engage in are mostly pleasant and pleasing. The sum total is romantic allegories about contemporary life. The overall tone of Nesterova's works is warm and musical. Done in bright, happy colours, they are original lyrical representations possessing artistic power.

It is appropriate to mention here that some young artists de-

liberately choose to ignore the obvious trappings of modern life, and paint landscapes and still-lives as if they were living a century ago. Even a steam engine and electricity they put beyond the pale of art. The inference is that the criteria of beauty cannot be applied to modern technology and such things as jet planes, spaceships, skyscrapers, and new farm buildings are not worthy subjects for artistic expression. But those things are all around us and are a part of our daily life. One can understand Alexander Petrov when he draws scenes of

modern city life, carrying out the detail in them to an almost documentary level. He is making a statement: how long will the artist confine himself to birch trees, serene pastoral scenes and log cabins. Isn't it high time he moved to artistically treating new realities, the life we are facing now.

Alexander Petrov has an ally of sorts in Andrei Volkov. The latter also makes the modern city the object of his scrutiny and shows, in a sharp and vivid manner, the rational character of the city's forms and colours, its technologically determined angular, cold shapes. But Volkov does not overdo it, and presents the city basically as a natural habitation for human beings.

Yet, one sour observation. Even the most talented artists sometimes lack clearness and coherence. Certain paintings are nothing but an unrestrained outpour of feelings and fantasies. They would have gained much if their messages were more understandable.

This reference may be made to Alexander Sitnikov's excessively decorative compositions. They startle. But all his bulls, roosters, and parts of figures suspended in a coloured haze look blurred and out of focus. Do these allegories



Olga Bulgakova. "Theatre. Actress Marina Neyolova." 1976.

have anything of importance to tell us?

The same thing can be said about Olga Bulgakova's works. One sees an abundance of real and not so real images, strange masks, theatrical concoctions, but is left guessing about their true meaning, or whether they

indeed have any meaning at all.

These reservations notwithstanding, the works of the above mentioned artists have considerable power and charm. Their visual poetry is both mysterious and esoteric, and can be captivating in itself.

However, the impact is greater when visual images serve as a vehicle for making a profound statement. Then originality of

style does not seem pretentious but is totally valid. There were quite a few works of that kind at the exhibition.

Tatiana Nazarenko's paintings come to mind. In her work *In the Artists' Studio* she meditates over the meaning of art in today's world. We see a version of the ancient Pygmalion myth. The sculptor in the picture is a secondary character, submerged in thoughts



Alexander Petrov.
"House near the railway".
1981.

and oblivious of other things, his sculptures, placed around the studio, act like main characters. The present and the recreated

past are interlocked. Shadows of distant days encroach upon reality and become part of it.

A similar concept may be found in Nazarenko's historical paintings. They are not authentic illustrations to known facts. Her

works do not reflect specific historical scenes but *recollections and thoughts of our contemporaries about the past.*

The subject for her *Pugachev** painting is borrowed from *The History of Pugachev's Mutiny* by A. S. Pushkin, published by the poet in 1834. The episode depicted shows the great Russian military commander Alexander Suvorov escorting the captured Pugachev to the place of execution on orders from Empress Catherine the Great. What does that bitter historical moment mean - one national hero taking another hero to his death? Why should we be reminded of that tragic incident?

The very infamy of that event teaches us a lesson. History takes a rough course and it cannot be presented, much less explained, in black and white terms. True historical art has always stressed that point. Nazarenko, following classical examples, recreates one such event, striving to grasp its meaning. She does not simply paint "an historical scene" but makes a moral value judgement for the present generation to ponder.

The rows of soldiers in the fore-

ground are symbols of blind obedience to power. They are marching to someone's orders.

Lost in thought, Suvorov exists as if separate from these soldiers. He has a different life, another destiny. He does not belong in this situation, and happened to get involved merely through some quirk of fate.

Pugachev, with his fierce mutinous thrust acquires another special dimension. Feeling the sufferings and pain of people, he tried to destroy the system of injustice. But he was ahead of his time, and therefore, he failed. Pugachev is morally hurt by the fact that his call was left unanswered. The tragedy goes even deeper because at that time Pugachev's aim was grossly misunderstood. To Soviet people who look upon it from the vantage point of history, the heroic nature of Pugachev's endeavour is clear and obvious.

It is worth noting that young Soviet artists, while taking up the events of the past, are seeking to establish new links with classical and Soviet traditions, and put their art within the broader context of the cultural heritage of all of mankind.

* Yemelyan Pugachev (b. 1742) was the leader of the peasants' revolt in 1773-1775. Executed in 1775. - Ed.



RECORD OF A GREAT LIFE

Work on the *Biographical Chronicle of V. I. Lenin* – a unique multi-volume edition which retraces Lenin's life in minute detail has been completed. Its 12 volumes describe the theoretical, political and practical work, of the founder of the Soviet state.

The first volume came out in 1970 on the centenary of Lenin's birth. Volume 12, which concludes the edition, covers the last period of Lenin's life, from December 1921 to January 1924, and includes almost 4,000 new documents.

It was precisely in this period – from December 23, 1902, to March 2, 1923 – that Lenin dictated his last letters and articles which contained particularly important theoretical statements and other ideas that are his political testament.

One of the overriding problems of the day was the creation of a multinational state. Lenin originated the idea of forming the Union of Soviet Socialist Republics by voluntary association of equal, independent nations and nationalities.

Assistance in compiling the *Chronicle* was rendered by research institutions of the Soviet Union and other socialist countries. The search for original documents was also helped by individual foreign citizens.

Calendar of Cultural Events

A GIFT TO LITHUANIAN THEATRE-GOERS



The State Academic Drama Theatre of Lithuania has moved into a new building with an original façade decorated by the sculptural composition, *A Festival of Muses*, in Vilnius, capital of the republic.

THE CHOICE

Extensive critical comment has been raised by the TV serial *Long Road Across the Dunes*, released by the Riga Film Studio (Latvia). It highlights events which began in bourgeois Latvia of the 1920s and spans a quarter of a century – a period in which the personal destiny of each character as well as the world and the ideas about it underwent many changes.

Major trials befell the people portrayed in the series, who are members of different levels of bourgeois society. One was the German invasion of the 1940s, which forced the Latvians to choose between joining in the battle against the nazis and fighting to the bitter end, or collaborating with them, trying to find justifications for themselves and their actions. There was no third option. Whoever thought he could remain on the sidelines found himself in the whirlpool of events all the same and, motivated by his principles, exhibited either his human dignity or his moral worthlessness.

RAVEL'S OPERA IN THE KIRGHIZ THEATRE

The first Soviet performance of the opera *L'Enfant et les sortilèges*, (*The Child and Magic*), by the French composer Maurice Ravel, has been staged by the Opera and Ballet Theatre in Frunze, capital of Kirghizia.

The content of the opera is simple: punished by his mother for disobedience, a boy took out his anger on anything that was handy. At night this wicked youngster had a dream in which, talking in a human voice, these things complained to him about the way they had been treated. This magic dream evoked in the child compassion and kindness for all that surrounded him.

The opera is half of a two-part programme which includes another premiere, the ballet *Petrushka*, by Igor Stravinsky, with choreography by Bulat Ayukhanov, the chief ballet-master of the Kazakh Young Ballet of Alma-Ata.

ANOTHER ARCHITECTURAL MASTERPIECE RESTORED

As centuries ago, the turquoise cupola of the Bibi-Khanym mosque in the Uzbek city of Samarkand is again gleaming in the sun.

Built in 1404 as a symbol of the power of the Tamerlane Empire, Bibi-Khanym was soon destroyed by an earthquake and its ruins were the sole reminder of its beauty for more than 500 years. Not long ago archaeologists reached its foundation, enabling experts to begin restoration. Before work began architects, using ancient descriptions, produced an exact model of this gem of medieval Oriental architecture.

The mosque had to be restored bit by bit: from a nail found amid the wall debris, to fragments of rosettes and ceramic ornaments which had survived. Now Bibi-Khanym is newly faced with glazed tiles and crowned by a gilded spire. Artists have adorned the central cupola with turquoise paint obtained as centuries ago, from the grass which grows on hills around Samarkand.

From the newspapers
IZVESTIA,
MOSKOVSKAYA
KINONEDELYA,
SOVIETSKAYA
KIRGHIZIA, PRAVDA
VOSTOKA and the weekly
NEDELYA



While a grazing young 500-kilogram bull increases its weight by something like half a kilogram a day, a 500-kilogram mass of yeast cells does so by over two tonnes. But why would man want so much yeast? You can't cut a steak off it.

BIOTECHNOLOGY AND FOOD

by Valeri YEROSHIN, D.Sc. (Biology)

from the magazine MIKROBIOLOGIYA

Photos by Mikhail VEDYAKIN & APN

During World War I, a shortage of food led the Germans to begin the large-scale manufacture of protein-rich brewer's yeast. By adding it to soup and sausage, the Germans were able to substitute 60 per cent of their prewar food imports.

About 20 years ago, the idea was revived, proposed as a means of reducing the food shortage in the developing countries. But for various reasons, it never produced the boom some people hoped it would.

Nevertheless, there is one problem which the biotechnolog-

ical synthesis of protein can play a key role in solving - the problem of agricultural feed. Cereal grain, which form the basis of feeds, contain little protein as well as little lysine - an absolutely vital aminoacid which the animal organism, cannot evolve by itself, and which it has to obtain ready made in food.

By enriching feed, expenditure can be cut by 25-50 per cent. One of the ways is by adding bonmeal to feed, but obviously, its resources are fairly limited. Fish meal is being used extensively, but fishing in the World

Ocean has reached critical proportions and has not expanded over the past few years.

In the United States, feed is being enriched by soya. The American climate is excellent for growing soya-beans, and the United States produces huge quantity of them. Cattle farming in the developed countries of Western Europe and in Japan is based largest on American soya. Britain alone, according to the magazine *New Scientist* buys a million tonnes of soya-bean flour for fodder manufacture every year.

In countries like the Soviet Union where substantial amounts of soya-beans can't be grown because of natural conditions, the biotechnological production of protein is of particular importance. The biomass of microorganisms which abound in protein and lysine can be added to feed. For example, the protein content of dried yeast comprises about 50 per cent of its mass, and in terms of lysine content, yeast is way ahead of soya.

Appropriate processes to produce this yeast have been evolved in many industrially developed countries, but they have not yet been very widely applied. In the capitalist world, competition between soya and microbial protein is influenced by more than economic factors. According to a comment by the late Hubert

Humphrey, former US Vice-President, soya is a new form of power and a new currency ...

IN SEARCH OF RAW MATERIALS

In the 1930s the Soviet Union launched the manufacture of fodder yeast from vegetal resources like sawdust, wood chips, straw, corncobs, sunflower and rice husk. However, this is feasible only at what today are considered small enterprises. Using these raw materials in large yeast hydrolysis plants has been proved uneconomical.

So a new raw material had to be found. The choice fell on oil. The Soviet Union was the first to develop the large-scale production of fodder yeast from naphthenic hydrocarbons. This new industry already turns out a million tonnes of yeast a year, which makes it possible to increase the protein content - or in other words, the nutritive value - of the 20 million tonnes of grain used for livestock feed. By 1985 production will almost double. However, by the year 2000, the country's annual requirements in fodder yeast and other microbial additives will reach 10 million tonnes. Obviously, the search has to be continued for new types of appropriate raw material. In the 21st century, oil can't be counted on.

Scientists have consequently



turned a very attentive look to synthetic alcohols - methyl and ethyl. Tests of a new type of fodder yeast obtained from ethyl alcohol are now nearing completion in the Soviet Union. The quality of eprin (its commercial name) is so high that cattle-farmers believe that initially, while it is not manufactured in adequate quantities, eprin should be used only as a substitute for whole milk for feeding calves, lambs and piglets.

WITHOUT A COW TO MOO

Biotechnological manufacture of protein - cattle farming - dinner-table... Can't the chain be shortened? The significance of such a step is difficult to over-estimate: worldwide, there is only

one large domestic animal and one domestic fowl per person, and they consume five times as much fodder as man does food.

The world of microorganisms is extremely diverse. Of course, they can yield many varieties of food - not synthetic, but precisely natural foods. Simply new foods in the human diet.

The reason why man has been eating higher animals and plants rather than microorganisms is very simple: for thousands of years he had not the slightest idea of their existence, although unwitting man has in fact been using them by baking bread, acidifying milk, and making beer and wine. Various mushroom dishes are very popular, although not among all peoples. Many kinds of mould fungi, which have some mysterious reputation,



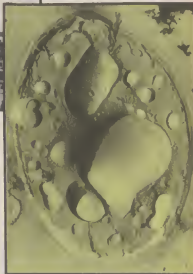
have for centuries been employed in Eastern cuisine, adding protein to national Indonesian, Japanese and Chinese dishes.

Today the range of food products can be widened consciously and deliberately. It is already quite realistic to derive additives to traditional foods from microorganisms, which will make it possible to prepare dishes with the optimum content of all components necessary for the human organism.

Amoco Foods of the USA has begun manufacturing many food products, Britain might shortly begin production of one of the types of mould fungi whose use as a food has been licensed by the government.

In the Soviet Union, like in many other countries, similar research is underway. Soviet

Yeast cell (photo below magnified 20,000 times). It is the principal component of production at microbiological enterprises. On left: the Novopolotsky plant of protein- and vitamin concentrates in Byelorussia.



scientists have developed a method based on ethyl alcohol of growing ordinary yeast for bread-baking. The use of only three per cent dried yeast with 97 per cent wheat flour raises the bread's nutritive value in protein terms by 50 per cent. Other techniques of using biotechnological products in the everyday diet as well as in diet therapy have already been evolved. 5

IN LIGHTER VEIN



Drawings by Iosif OFFENGENDEN
from the magazine YUNOST

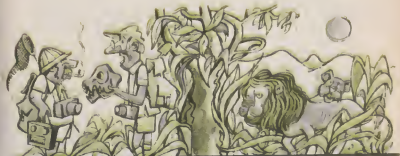
Once before we have presented works by cartoonist Iosif Offengenden (see SPUTNIK No 8, 1979). He looks at the world with an affectionate smile and for more than 30 years has been mocking human frailties and taking note of funny situations.



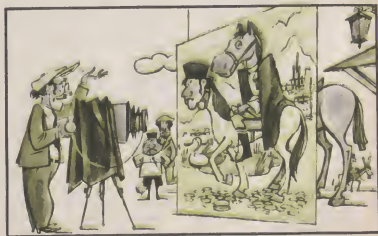
Tell the teacher I've gone to the dentist for false teeth.



This is how you do it!



Just imagine, there was a time when lions lived in these parts...



Please, raise your head a bit...

Ocean life conceals a wealth of surprises,
as modern science has found out.

FANTASTIC CREATURES OF THE LOWER DEPTHS

by Yaroslav GOLOVANOV, science columnist
condensed from the magazine *AURORA*

Drawings by Vasil BERTELS



In the past 300 years there have been over 1,000 recorded sightings of sea monsters and those people claiming to have seen them have left detailed descriptions of the encounters with the animals, their external appearances and even habits. Earlier evidence is also available. The Ancient Greek philosopher Aristotle wrote about extremely rare animals resembling enormous tree trunks that had been sighted by fishermen at sea. A marble Greco-Roman statue of a maned sea serpent has been discovered in Romania. *The History of the Northern Peoples*, (1555) contains a description of an enormous sea snake which lived off the coasts of Norway. Be-

tween 1818 and 1848, this same mysterious marine stranger was sighted on 82 recorded occasions in various parts of the ocean. In 1892 was published the first scientific review of 187 carefully selected eye-witness observations of this wondrous animal.

Although descriptions of the monster might initially seem fantastic, a cold-blooded analysis yields a completely scientific explanation. Many observers say the thing they saw had a mane. But fur-seals have what might be called a mane. Besides, respiratory organs can be taken for a mane—the hair of what is called the hairy frog forms part of its respiratory organs. The sea ser-

pent is said to have big eyes—a feature of those animals which inhabit the ocean depths: the blackness of the deep waters has made nature give the denizens of this kingdom of eternal night immense eyes which can catch minute portions of light. The

finally, there is the view that the sea serpent is a saurian which has survived from the Mesozoic era.

Being a layman, my judgement on this controversial question contributes nothing concrete toward its solution. The view that this serpent has survived from



Sea serpent (according to descriptions).

combination of mane and big eyes is also logical. It is what a deep-sea mammal which cannot frequently surface to breathe should "logically" look like.

"Sea serpent" seems to be the blanket term for a whole range of creatures—a large group of animals unfamiliar to science which differ rather extensively.

Some zoologists assume that the legendary sea serpent is an unknown branch of seal. Others say it is a giant eel (in the 1930s, Danish oceanographers caught an eel larva which was 1.84 metres long! If this giant larva grows like most common eels, the adult of this mysterious branch should be 20 to 30 metres long!) And

the Mesozoic era is more to my liking.

"Where do antediluvian saurians fit into the picture?", the sceptic could well ask. "Can they have survived their era by tens of millions of years?"

They can. I say this without any hesitation because I have supporting evidence.

In 1938, a fish known as coelacanth which had inhabited the seas 300 million years ago was caught off the Comoro Islands. Another seven male and two female coelacanths were caught between December 1952 and July 1955. One of the females was found to bear eggs (some scientists had hitherto thought that it bore its young live). The unique



This fish inhabited the oceans 300 million years ago.

fish was photographed. Then an underwater movie crew even did a short film about it. Finally, the lungfish were being caught regularly. There is one on view now at the Institute of Oceanology in Moscow.

So a prehistoric fish has managed to survive.

In 1952, shells containing living molluscs were brought up from a depth of 3,590 metres off the Pacific coast of Mexico. Oceanologists were sent fairly reeling by these modest-looking creatures. In the shell they found a mollusc known as neopilina, which had appeared on our planet almost 500 million years ago and was said to have become extinct tens of millions of years before the early mammals had made their appearance.

So why should the antediluvian sea serpent which compared to creatures like neopilina be a spring chicken, fail to have survived? And whatever species the sea serpent might be, the possibility of its existence does not explode any fundamentals of zool-

ogy or biology, but only confirms the unique ability of living organisms to adapt themselves to substantial environmental change.

Science still has no unassailable theory to explain the rapid (in geological terms) extinction of the giant saurians and many other animals and plants about 65 million years ago. One hypothesis is that it was caused by the dust formed as a result of the earth colliding with an asteroid about 10 kilometres in diameter. The hypothesis has quite a few critics. However, if one were to assume that an asteroid brought the curtain down on the dinosaur era, the mass of the water of the World Ocean would certainly have offered better protection from the dust than the air. So marine creatures would have had a better chance of surviving than land animals.

Another hypothesis attributes the extinction of the monsters to a sharp increase in the radiation background as a result of some cosmic catastrophe. Here, too, the ocean is also more stable in all respects, and if saurians have managed to live, the best place to look for them would be the ocean.

Catching a sea serpent would clear a lot of things up. But where? And when? And how?

To the first two questions, there are tentative answers.

Studying all the relevant information then collected, the zool-

ogist Eivelmans concluded that the sea serpent was a denizen of the midlatitudes. It has seldom been observed in the polar and tropical seas. Although some types might well migrate from the northern hemisphere to the southern and back. It had been observed with most frequency from May to September in the northern hemisphere, and from October to March in the southern. The maned sea serpent, unlike the non-maned one, seems to frequent the colder areas almost the year round.

These modest conclusions are perhaps the only guidelines for those who might want to initiate a hunt for the sea serpent. How? Setting traps in the ocean has been proposed, and attempts are being made to hunt down the creatures with bathyscaphes and other apparatuses. However, modern ships puff, pound, and spread the smell of oil. So how can man expect to find this elusive and wary creature?

The controversy that has raged for years over the so-called Loch Ness monster, known as Nessie, now appears to present itself in a somewhat different light.

Here is the essence of the controversy. Some - let us call them visionaries - assume that sea serpents unknown to science live in the lake. Others - the sceptics - are convinced that they can't possibly.



This is what the legendary Nessie may look like.

But let us indulge in a bit of reasoning.

Loch Ness is the largest lake in Scotland - almost 40 kilometres long, up to two kilometres wide and up to 325 metres deep. Geologists say that 10-11 thousand years ago the lake - once a fjord - was separated from the sea as a result of a glacier's action. It has rocky bottom with underwater caves. Its water is fresh, and it never freezes over. Seven rivers flow into Loch Ness, and one flow out of it. Loch Ness abounds in fish; salmon, eel and trout are plentiful.

Is it possible for any large animal to exist in Loch Ness at all? Sceptics say no: the glacier should have destroyed the animal. However, there are bodies of fresh water in both Siberia and Canada, over which glaciers also passed that have been found to contain seals and other marine fauna which have managed to survive.

A far more serious argument against Nessie is the laws of existence of living beings. To survive, any animal community must number several hundred specimens. Otherwise the species will inevitably become extinct. One, two or even ten Nessies could not have survived for 10-11 thousand years.

What do the visionaries have to counter this with?

British ecologists have estimated that the size and reserves of biomass in the lake can in principle guarantee the survival of the Nessie species. If they do manage to exist in sufficient number so they can avoid specific extinction, the lake will be able to feed them. And Nessie presumably has no enemies.

Suppose the photographs claimed to be that of Nessie are of some sunken tree, a patch of algae or other object, and not of Nessie itself. But what causes logs or algae move at a speed of 16 or, according to other figures, 25 kilometres an hour? These are the speeds that have been regis-

tered by ultrasonic sonars. The lake has no strong currents. And what logs or algae can dip and then resurface?

An analysis of all pertinent reports suggests that Nessie is 6-10 metres long, has a fairly massive neck, a small head, a relatively short tail, and two pairs of fins. A hundred years ago the American paleontologist Samuel W. Williston, who knew nothing about Nessie, described a plesiosaur on the basis of the skeleton that had just been discovered. In his opinion, it had a neck which was thick and fat at the base, a wide body, and a short tail also enlarged at the base. At practically the same time the German scientist Johannes Walther wrote: "The plesiosaur's strange shape can be likened to that of a snake threaded through the body of a turtle."

Judging by all the film frames, photographs and verbal accounts of Nessie, no other earthly creature ever fitted its description better than the plesiosaur.

The enigma of the sea serpent is more than simply a specific zoological problem. An answer would modify present concepts of the evolution of the earth's animal world and its adaptability potential, as well as current knowledge of the dynamics of evolution of all life on our planet. But how is this fascinating enigma to be unravelled?

S

Puzzles of Nature

Living Colours

by Vladimir MEZENTSEV

from IZVESTIA

Once a woman neighbour knocked at my door. She was holding a loaf of bread covered with red spots.

"Please, take a look! I baked it yesterday. When I saw it today I had a fit!"

On the same day I was sitting in the laboratory of an old microbiologist friend of mine.

"It's a fairly rare occurrence," he said, examining the bread. "However, there's nothing particularly mysterious about it. Something like it happened in the church of the small German town of Wilsnack in 1383. 'Blood' stains turned up on hosts - wafers made of fresh wheat dough which Catholics use in performing the sacrament. The stains were washed off, but they reappeared. Religious bigots declared it to be the fault of 'heretics', who, they claimed, had pierced the hosts which was why they bled. This sparked off a mass slaughter of innocent people. In 1819 in the house of a peasant living near the Italian city of Padua, 'blood' stains were found on the surface of maize gruel which had been left overnight in a damp place. Luckily for the peasant, a clever, educated physician lived in Legnano."

Such things happen not only to bread. In the Alps, Spitsbergen and other places now and then red snow can be seen, which turns this colour in a matter of hours. Historical chronicles mention suddenly reddening lakes and rivers.

In the past such puzzling phenomena, like everything out of the ordinary, naturally frightened people. What does modern science have to say about it?

All these "miracles" are due to microorganisms. As they multiply, they take the form of mould of different hues, more often than not, greenish and grey, but they can also be yellow, brown, and blue in colour. None of these colours upset people. However, red microorganisms have on many occasions frightened the superstitious. They were responsible for the massacre of "heretics" in 1383. The same microbe coloured my neighbour's bread.

When the Italian peasant saw the red spots on his maize gruel, the doctor, instead of saying prayers, fumigated his rooms with sulphur dioxide, killing the bacteria.

And what about the "bloody" snow? This game of nature is joined in by a microbe, which multiplies extremely rapidly and is not afraid of low temperatures.

Nor is the puzzle of water reddening in various sources a great challenge. Scientists have discovered that the minute microorganism that colours such water has in its body a red pigment absorbing the ultraviolet sunrays which are a danger to living beings.

S

Drama in Real Life

In-flight Bullfight

by Vasilii DANILENKO, pilot

condensed from the newspaper TIKHOOKEANSKAYA ZVEZDA (Khabarovsk)

Drawing by Iosif OFFENGENDEN

Pilots who fly local routes between small towns in the Soviet Far East, in areas where roads or other means of transportation are virtually nonexistent, frequently carry odd cargoes. I can refer to my own experience. I have flown everything imaginable: horses, silver foxes, live fish, sables, polar foxes and even bees.

So I wasn't too surprised to learn that I was to airlift a bull. At first, I had some doubts whether my small plane, which seats eight could accommodate that rather large piece of freight. But we checked the room inside and came to the conclusion that we could do it.

The bull - who was named Orlik (Eaglet) - walked aboard calmly, even proudly.

The man who brought the animal, seemed a little bit too eager to praise it. "That bull is worth its weight in gold," the man said. "He is an angel, the best tempered creature on earth." These compliments notwithstanding, the guy went to great pains to tie the bull securely.

We took off. I handled the stick, and my co-pilot wrote in the log. For a while we proceeded smoothly, then met with some turbulence. We rolled slightly at first but then it got bumpier. We are used to these things and hardly noticed it but the bull was apparently less than comfortable and presently decided enough was enough. It bellowed like a tuba, and through the earphone I heard a thunderous "moo-OO-oo" which blanked out all radio signals.

I turned around and gasped. The bull's eyes were bloodshot, wild and mean and the ropes holding it had come loose. I got stiff when I realized the situation we were in. It's hard to say what frightened me more - the bull or the thought that we were going to crash.

Meanwhile the beast went on offensive. First it attacked our radio console and then went after us. We had to control the plane and simultaneously fend off the bull's charges. Presently the animal thrust its head into the



pilot's cabin and I saw a huge metal ring pierced through its nose.

"Take over," I shouted to the co-pilot. "Bring her down," and I grabbed the ring with both hands. The bull roared but backed away. At this very moment the co-pilot saw level ground beneath us and we crash landed. When the two of us extri-

cated ourselves from under the plane wreckage, we were a pretty sight covered with bruises and dirt. The bull stood not far from us with a section of the plane's cabin on it.

We spent a week in hospital, and the plane was total write-off. People told me later that the bull walked from the scene of the crash unscratched.



It's not a question of better or worse – lefthanders are just different from the rest.

Southpaws in a 'Right-handed World'

by Professor Alexander VEIN,
D.Sc. (Medicine)

condensed from
LITERATURNAYA GAZETA

Photo by Yun SHITOV



What is the scope of the phenomenon? According to expert figures, between 2.8 and 7.4 per cent of the population are left-handed. This means there are 126-338 million left-handed people in the world – a formidable figure!

There are many theories of why people are right-handed or left-handed. According to the "historical" theory, the right hand is more developed because early man found it more convenient to use to strike at an enemy's heart

with a spear, while the left hand played a more passive role, as it was used to hold a shield to protect the warrior's heart.

The "anatomical" theory is based on factors like the location of the principal organs: the weight of the liver, which is in the right-hand part of the body, influences the location of the body's gravity centre and, accordingly, the better development of the right hand; the right hand is

controlled by the left half of the brain which is better supplied with blood by the heart; if the crucial role were played by the left hand, the result would be heart fatigue.

Were the "geocological" hypothesis to be correct, the Southern Hemisphere of our planet should have more left-handers than the northern. It was also noticed that left-handers are usually the first- or last-born.

However, like most other phenomena which bring forth a host of hypotheses, the mechanisms are still obscure.

Scientists now tend to believe that left-handedness is caused primarily by inborn, hereditary factors. One thing that is known is that 50 per cent of couples where both are left-handed have left-handed children. In the case of one left-handed parent, the percentage drops to 16. Among right-handed parents the percentage is far lower. Another sign pointing to genetic factor is the fact that left-handedness among men is more frequent than it is among women.

There are both "complete" and "partial" right- and left-handers. With "complete" right-handers the right foot, eye and ear as well as the right hand are more dexterous and usable. "Complete" left-handers exhibit the same qualities with respect to their left-side organs. The more dexterous hand in both instances is slightly big-

ger, with a wider nailbed of the little finger and a more distinct venous network on its back, the corresponding half of the chest has a slightly greater volume. However, there are not many absolute right- and left-handers.

WHICH IS 'NORMAL'?

Since ancient times, it has been believed that left-handedness is a certain deviation from the norm: after all, the majority always believes its attributes to be the only appropriate ones. These concepts are reflected in all languages.

Some scientists claim that left-handed people are often poorer learners and poorer workers than right-handed people. There is very little support for this claim, as there are very strong commonly known counter-arguments. Leonardo da Vinci was left-handed. The overwhelming majority of scientists working in the appropriate field say that right- and left-handers can be equally proficient both in learning and in work. All indications point to the fact that this is the most likely conclusion. Predominant use of the right or left hand does not itself indicate the degree of talent, kindness or generosity. Being right-handed cannot be reason for pride any more than being left-handed can be a reason for even the slightest sense of inadequacy.

SECRETS OF THE BRAIN

Left-handed people have certain specific features of intellect, psyche and personality in general. As an example, let us take an area in which left-handedness is widely exploited - sports. There are many outstanding boxers, fencers, volleyballers who are left-handed. True, the southpaw gives his opponent a lot of headaches. But even more important is the special system of psychomotor activity disclosed among left-handed people, which stimulates more rapid perception, organization of movement and anticipation of events than among right-handers. Obviously, apart from sports, these qualities will play a major role in any other type of activity.

The differences in psychic make-up between right- and left-handed people have a deeper source - what is known as the functional asymmetry of the brain.

Control of the right half of the human organism is concentrated in the left cerebral hemisphere, while that of the left half is concentrated in the right. These halves of the brain are entirely symmetrical and almost undistinguishable structurally. However, the assumption that they perform different functions arose in the 19th century. Even then, doctors who observed patients with disorders in the left hemi-

sphere discovered that this ailment led to speech disturbances, and that it was the left hemisphere which was primarily responsible for intellectual and psychic activity. Considering the importance of speech in human life the conclusion would appear to be incontestable. The left hemisphere was considered dominant. And so, in comparison the right hemisphere was "ignored" in the science of the brain for almost a century. It is only in recent decades that new facts arose which disclosed its particular role. The right hemisphere was found to be of particular importance in spatial perception, sensuous knowledge and image thinking.

SHOULD LEFT-HANDED CHILDREN BE MADE TO USE THEIR RIGHT HAND?

Many people have experienced the difficulty and the pain of getting left-handers to use their right hand. It often provokes chronic stress, which has a harmful effect on the child's health. The excessive efforts of parents and educators to forcibly make child forget about using his left hand in intensive activity, especially if these attempts are accompanied by tactless remarks or even punishment, can result in psychic trauma which will lead to undesirable personality changes.

It should be realized that left-handed youngster taught to use his right hand cannot be made into a right-hander. Only his motor behaviour can be changed to a certain extent. All the other distinctions of his psychic make-up will remain as they always were. Besides, many of naturally left-handed children do not effectively respond to a reorientation of motor behaviour. They will write with their right hand with great difficulty, and still use their left hand for all important functions.

Other arguments against reorientation, especially with "complete" left-handers, include consideration of the probable consequences of the parents' efforts - inhibition of the child's natural abilities, neuroses, and even a retardation of intellectual development. Forcing a youngster to use his right hand leads to a certain deindividualization.

If a child who prefers to use his left hand responds easily to using his right, he should be taught to write with his right hand. If the attempt is difficult because the boy or girl is a "complete" southpaw, it should be abandoned because trauma will certainly result.

The exponents of getting left-handed children to use their right hand usually base their case on the fact that our "right-handed" world is not especially well adapted for lefties. Tradition dictates the predominant use of the right hand, and this applies to

school equipment, manual tools, implements and machines. For this reason, the left-handed youngster will have to expend additional efforts, which can lead to excessive nervous and physical exhaustion. This will be aggravated by psychological problems. For example, a child who writes with his left hand attracts everybody's attention, and is often teased by his right-handed chums. This is why a left-hander who has been taught to use his right hand, and thus can shed his constant psychological stress better adapts himself to the "right-handed" environment.

It is true that these considerations do have some logic to them. But is it not equally reasonable to try and make the left-handers' environment more congenial, rather than attempt to change their natural attributes?

As a first step, left-handedness should be probed more deeply by science. In addition to doctors, physiologists and psychologists, educators should join in the effort. All pediatricians, kindergarten and school teachers and instructors of various training centres must have knowledge of the problem, which, of course, they should make available to all parents of left-handed children.

It is within our powers to create conditions that would enable left-handers to enjoy a comfortable life in our "right-handed" world.

RECORDS OF TOMORROW

*condensed from articles from the magazine
FIZKULTURA I SPORT and the
newspaper TRUD*

APN photo



If we are to believe sports forecasters, by the year 2000, high-jumpers should succeed in clearing two-and-a-half metres while pole-vaulters will soar to heights of 6.60 m.

On the eve of the Moscow Olympics, sports newspapers came out with projections of the results of the Games. At the close of the competitions it turned out that in the events where performances could be objectively measured, the prognosis proved to be basically correct.

A new world record of 2.36 m was forecast for the high jump. That was exactly what winner Gerd Wessig of the German Democratic Republic did. In the pole vault the target was set at 5.80 m and Poland's W. Kozakiewicz finished 2 cm short of the mark. A time of 54.79 sec. was projected for the women's 100 m freestyle swimming event. B. Krause of the German Democratic Republic was right on the money, so to speak. Forecasters scored many other "hits".

The credit should go to specialists from the sports prognosis lab, established some 10 years ago at

the All-Union Physical Culture Research Institute in Moscow.

"I am convinced," says the man in charge of the unit, Gennadi Semyonov, who has a Ph. D. in biology, "that we have to understand what future results we should aim at in order to train a world class performer. Working back from that projected mark, we would be able not only to plan realistic intermediate sublevels for a given athlete but to choose the strategy for reaching our goal and to suggest the appropriate models and schedule of training. In addition, we could influence the general development of sports."

HOW TO FORECAST RECORDS

When the Greeks registered results at the First Olympic Games they, in effect, started a never-ending race to break records. It is said that any mark set, however formidable and superhuman it may look at present, will eventually be surpassed. Assuming that this is so, we are tempted to cast a glance into the future to guess what human beings might be able to achieve.

Those involved in reading sports tea-leaves do it differently in each country, but they usually do not venture beyond 10-20 year projections. As a rule, the point of departure are existing levels of physical achievements. In many cases they apply a method of extrapolation under which inferences are made based on an assumed continuity of present tendencies and on the premise that the pattern will hold in the future.

There is a built-in trap in this: the method does not take into account possible radical innovations in sports techniques. Jumping events provide a good example in this respect.

By extrapolation we arrive at 9.75 m as a very probable result in the men's long jump in the near future. But specialists in biology and mechanics believe that Bob Beamon's jump of 8.90 m in 1968 was executed so perfectly that it can not be improved at present. In other words, with the technique now used there is no realistic basis for higher projections, and they are rendered useless, becoming nothing more than wild guesses.

A computer analysis of differ-

ent high jumping techniques showed that the "Fosberry-flop" is the most efficient from the biological and mechanical point of view. Had the winner of the Tokyo Olympics, Valeri Brumel, who had phenomenal speed and strength, used the flop, he would have cleared 2.40 m and done it 12-15 years ago.

Another example. Running different shot-put techniques through a computer, specialists came to the conclusion that the results in this event could grow radically in the near future, if athletes adopt a "revolving" method which Soviet sportsman Baryshnikov uses. The computer chose that technique as the most promising one and predicted that if men of the right physique use it, the world record may reach around 30 metres (at present it is 22.15 m).

FICTION WHICH MAY BECOME REALITY

"In our projections," says lab chief Gennadi Semyonov, "we apply a number of different methods. I won't go into detail but will simply point out that we make our inferences on the basis of thorough analyses of sports results

over a period of 30 years, taking into consideration the methods of execution in the best performances and specific conditions in a given sports event. Improvements in equipment and changes in synthetic surfaces at sports facilities are also factors. All that information is translated into mathematical formulas and fed into an electronic computer which comes out with the projections."

Today the lab has come up with predictions for the 1984 Los Angeles Games. Here are some of them: in the 100 m dash - 9.96 sec. for men, 10.92 for women; in the high jump - 2.39 m and 2.05 m respectively, in the long jump - 8.73 m and 7.20 m; in men's free style - 48.77 sec. (at present the world record is 49.36 sec.)

A prediction for the 1984 Winter Games - the winner of the men's 500 m ice-skating will clock 36.85 sec. (the record time is 36.91 sec.)

The lab has obtained figures for 1988 and even has some for the year 2000. Beyond that any projection would be purely speculation though some of Semyonov's colleagues abroad are not afraid to look further into the future.

Polish scientist Zenon Wazny, for example, has based his pre-

dictions on "human potential". He thinks that at the beginning of the next century men will run 100 m in 9.53 - 9.58 sec., and clear 2.47 m - 2.50 m in the high jump. Gunther Kohan of the Federal Republic of Germany believes that we enter into the next thousand years with men clocking 46.06 sec. in the 100 m free style event in swimming, 14 min. 7 sec. in the 1,500 m freestyle and 59.3 sec. in the 100 m breaststroke.

Judging by today's standards, we may call these results "fantastic" or "simply impossible".

But the achievements we consider normal nowadays were referred to in similar terms 30, 20 and even 10 years ago.

The capabilities and reserves of the human body remain a mystery. As we better understand the functions of the body, and its reaction to certain kinds of stress, delve deeper into the secrets of the cell, unravel the biological and mechanical aspects of movement and study athletes' psychology, we are moving toward the projected records, and hopefully their eventual achievement. **S**

BOTH A CHALLENGE AND OBEDIENCE TO NATURE

The two are entirely different fishes. The giant sturgeon - also known as beluga - is a big fish, weighing up to a tonne, which lives and feeds at sea, although travelling up rivers to spawn. The sterlet is far more modest. It usually weighs 1.5-2 kilograms and leads a "settled" life in rivers. But Soviet ichthyologists crossed them, and the result was a new fish which could reproduce, called the *bester*. From its mother, the beluga, the new fish acquired its predatory way of life and ability for intensive growth, while from its father, the sterlet, it received its excellent taste. The *bester* can multiply both at sea and in any body of fresh water, including reservoirs.

From the newspaper SOVIETSKAYA LATVIA

WITH A WRY GRIN

If you repeat the mistakes of others, you won't have time for your own.

Sometimes a blind accident helps one to see.

If a person is laughing heartily, it is not at himself.

From the magazine PERETS

SOVIET MEDICAL NEWS

● NEW POLYMER FOR VESSELS

Aneurysmal dilation of large blood vessels - where the vascular wall becomes so thin that the artery or vein can burst at any moment - is a serious disease. The only way out is by strengthening the wall.

Unfortunately the strengthening materials have been imperfect. But now a new polymer, *Poretan*, developed by associates of the Institute of Organic Chemistry of the Ukrainian Academy of Sciences, has overcome many of the disadvantages. Wrapped around the blood vessel, it creates something like a pipe with holes in it on which the connective tissue will grow. The *Poretan* gradually disintegrates and disappears from the body. The disintegration proceeds at the same time as the growth of the new tissue. The blood vessel thus gains in strength, causing the aneurysm to disappear.

From the newspaper MOSKOVSKY KOMSOMOLETS

● DIAGNOSING POTENTIAL OF EAR

It took two minutes to examine a patient by a special instrument which explored several spots on his ear. Then the doctor advised checking the kidneys.

This new method of examination, developed by Latvian specialists, focusses on spots on the floor of the auricle which can "receive" signals coming from different body systems. If the individual is healthy they are "silent". But as soon as any of the organs malfunction, a certain spot on the ear is upset and its electric conductivity changes.

From the newspaper SOTSIALISTICHESKAYA INDUSTRIJA

● X-RAYS WILL GROW WEAKER

Soviet scientists, and their colleagues from the German Democratic Republic have raised the screen efficiency of X-ray apparatuses by evolving a new luminophore which reduces radial loads in X-ray diagnosis by 75 to 80 per cent. The process is being developed, and the new luminophore will be mass produced in 1984.

From IZVESTIA

● TREATMENT BY MINI-LIGHTNING

Sixty-four-year-old Jonas Nikolauskas arrived at Kaunas (Lithuania) hospital with a heartbeat of 300 a minute. The usual remedy is to cut the nerve track known as the atrioventricular fascicle.

But this time no surgery was done: the heartbeat was brought down to normal by a powerful electric pulse. This operation by mini-lightning of 350 joules takes far less time than surgery, and associates of the Kaunas Cardiologic Centre are devising appropriate equipment.

From MEDITSINSKAYA GAZETA

A Letter to the Editor

HUMOUR

by Mikhail ZADORNOV

from the magazine YUNOST

Drawings by Vladimir SVIRIDOV



Hello, dear editor!

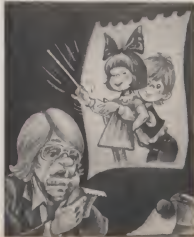
I am three years old, I am a girl. Please, help me! Ever since I conducted the philharmonic orchestra on television the girls in our yard and even the boys have stopped playing with me. Now they tease me and call me a show-off.

I don't know why, all I was doing was conducting. I like conducting an orchestra best of all. It makes a change from foreign languages, Greek philosophy and nuclear physics. Kind what have I got to show off about when I don't even have

a doll whose hair can be combed. Mama won't buy me one. She says I am a child prodigy and mustn't be like other children. Yesterday evening, after being teased in the yard again, I told her flatly that I would never conduct on television again. She and Daddy put me in the corner.

For a long time I considered what to do. Standing in the corner I even leaped through Plato, but I found no answer. Then I decided to write you.

Dear editor! Could you please publish a review in your newspaper which will slam my last appearance on television? To be honest, I haven't quite matured enough for the philharmonic in any case. In fact, what you saw was a bit of legerdemain. Actually, I wasn't conducting



but I led. Behind my back. And he's not three, but four. He agreed to help me but because he's the only one who understands me. He is also teased in the yard and told that they will break all his bones.

You see, if you publish a derogatory review of our performance, everyone will be disappointed in us and stop making us perform on television. Then I led and I will figure out how to build an impenetrable fortress in the children's playground out of the dust pits, which no parents will be able to capture. That way we will regain the best of the robot yard! And then, then, perhaps, the girls will again let me play with their dolls and the boys will let I led be goalie



when they play football.

Dear editor! In the name of all child prodigies, I beg you, give us scathing reviews, so that adults stop pestering us with their liberal scheme and childhood does not pass us by. Of course, I led and I will continue to conduct the philharmonic orchestras, I smaller ones but only for ourselves. Somewhere secluded, so no one teases.

Dear editor, I must now close since Mama is coming to take me into the next room where reporters from the radio are waiting for me and I haven't yet combed my hair. Only I can't understand why I should, after all, on radio they can't see me!

I await your scathing review of the child prodigy with impatience.

Yours truly,
Olya





Cookery

THE FAIRY-TALE CAFES



from the magazine
KRESTIANKA (Peasant-woman)

Photos by Yun KARPOVICH,
Victor AKHLOMOV, APN & TASS

Once overheard a little boy of six talking to his grandmother:

"O. K., let's take pudding," he said, and

then added insistently, "and ice-cream with strawberries"

The conversation took place in the children's cafe, *Nikštukas* in Vilnius, Lithuania. *Nikštukas* is a kind gnome in an old Lithuanian fairy tale. Those from two to twelve (and older!) who have a sweet-tooth can try whipped cream with chocolate or jam, ice-cream cones, fruit flavoured jelly, and, of course, an assortment of nine baby cupcakes (all nine weighing less than 75 grams). But before the sweets, the waitresses bring something more substantial - "Potato horns", "Apples in pastry", or "Apple-carrot pudding". All the dishes in the *Nikštukas* cafe are delicious, but it is forbidden to lick your fingers. Children are taught good table manners as well as being served tasty treats.

There are similar cafes in many other towns throughout the country. Artists have created unique interiors, taking into account children's interests and tastes—the walls are often covered with illustrations of well-known fairy tales. The names of the cafes are also connected with kid's favourite stories: *Burattino-Pinocchio*, *Kolobok* (The Gingerbread Man), *Snow White*, *The Scarlet Flower* (a Russian fairy tale), and others.

We should add that in these cafes even the most capricious little ones eat with relish. The secret is that a child needs

the company of his peers, even at the table. Since the children's cafes are full of kids, it is more fun to eat. And besides, dishes are made with the tiny customers' tastes in mind, and upon nutritionists' advice.

Little ones listen to records of fairy tales,



radio programmes for children, or songs from their favourite cartoons. If they want, they can sing, dance or recite poems for those present. Older children have the opportunity to meet with popular children's story writers, and on holidays, besides

In the cafe "Skazka" (Fairy tale) in Minsk the tots don't have to be coaxed to eat.

wonderful goodies, there are puppet shows and circus performances right in the cafes.

The following are a few recipes from the children's cafes' menu:

Place several ice-cubes in a tall wine glass and pour the raspberry syrup, the apricot juice, and the grape juice, in that order.



NIKŠTUKAS COCKTAIL

For one serving:

40 grams of raspberry syrup, 80 grams of apricot juice, 40 grams of grape juice.



POTATO HORNS

For eight horns:

PASTRY: 3-4 potatoes, $\frac{1}{2}$ tsp flour, $\frac{1}{2}$ egg, salt to taste.

FILLING: 100 g chicken giblets or

veal, 1-2 tsp butter, $\frac{1}{2}$ egg, $\frac{1}{2}$ onion, $\frac{1}{2}$ tsp flour, salt and pepper to taste.
BREADCRUMB MIXTURE: 2 Tbs bread crumbs, $\frac{1}{2}$ egg, 2 Tbs lard.

SAUCE: 8 Tbs mushroom bouillon, 2-3 Tbs sour cream, 1 tsp butter, $\frac{1}{2}$ tsp flour, 4-6 fried mushrooms, $\frac{1}{2}$ onion, bay-leaf, salt and pepper to taste.



Children are fond of the cafe "Nikštukas" and enjoy its food.

Boil and mash the potatoes. Add egg, flour, and salt, and mix well.

Grind the boiled chicken giblets or veal. Add finely chopped and lightly

fried onion, lightly fried flour, egg, salt and pepper, and mix thoroughly.

Make small pancakes from the potato mixture. Place the filling in the center of each and roll, forming a horn. Dip in the breadcrumb mixture

and fry in lard until golden brown. Add the mushroom sauce. To prepare the sauce: add flour to hot mushroom bouillon and stir until flour dissolves. Boil for 15 minutes. Strain to remove lumps. Add finely chopped onion,



And in the far-off Arctic city of Norilsk the children's cafe is called "Solnyshko" (Baby Sun).

chopped mushrooms, salt, bay-leaf and pepper, and cook for another 15 minutes. Then add sour cream, bring to a boil, and remove from heat. ❸

A TABLECLOTH, RAM AND A CLUB



A Latvian Folk Tale

Drawings by Alexei
TERTYSHNIKOV

Once upon a time a father had three sons. Two of the brothers were clever, but the third was considered a fool. One of the clever brothers began to pester his father to let him go to try his luck in the world. The father finally agreed. Off the clever chap went, but no matter how hard he tried, he could not find work. At last he met a man and asked if there wasn't a job for him. The man replied:

"If you agree to work for the pay I'll give you at the end of a year on the basis of what I think you're worth, then come along."

The son was willing. Then a year passed, instead of wages, the man gave him a tablecloth and said:

"You served me faithfully and well and consequently you shall be handsomely rewarded. This tablecloth is worth more than money. All you have to do is spread it out and say: 'Tablecloth, set yourself!' and all sorts of good food and drink will appear."

The son thanked him and set off for home. Halfway there, night overtook him and he turned in to a house and requested a night's lodging. The master had no objections but was cu-

rious about his guest's tablecloth.

"It is a tablecloth to which you must not say: 'Tablecloth, set yourself!' " the son replied and went to bed.

When the son fell asleep, the master of the house took the cloth and said: "Tablecloth, set yourself!" At once good food and drink appeared. On seeing the miracle, the master hastily hid the tablecloth and substituted one of his own for it. The following day, suspecting nothing ill, the son came home and told his father to invite guests since his tablecloth would provide ample food for all. The guests gathered and the son said:

"Tablecloth, set yourself!"

But nothing happened. No food or drink appeared. The son was at his wit's end, but to no avail. The guests began to make fun of him and the father became angry, all his boasting had come to nought.

Soon the second son began to pester his father to let him go. The father did so. He trudged on and on, but he could not find work either. At last he met the same man as his brother and asked to be hired. The man replied:

"If you agree to work for the pay I'll give you at the end of a year on the basis of what I think you're worth, then come along."

The son was willing. When the year was up, the man brought out a ram and said:

"You served me faithfully and well and consequently you shall be handsomely rewarded. This ram is worth more than money. All you have to say is: 'Lamb, chew your cud!' and the ram will begin to spit out gold ducats."

The second son thanked him and started for home. Halfway there, night overtook him and he turned in to the same house that his brother had. The master received him, but was curious about the ram.

"It is a ram to whom you must not say: 'Lamb, chew your cud!' " the son replied and went to bed.

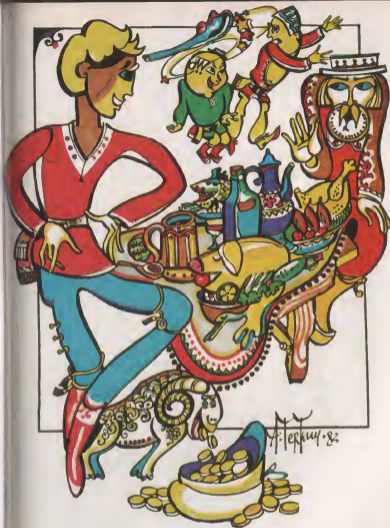
When the son fell asleep, the master of the house decided to substitute his own ram for the other. In the morning the son arrived home and bade his father to invite guests, his ram would give them generous gifts. The guests assembled. The second son would show them of what his ram was capable. He said to the ram:

"Lamb, chew your cud!"

But nothing happened! No ducats came tumbling out of the ram's mouth. The son racked his brains while the guests, as on the previous occasion, made fun of him and the father was angry, all that boasting had come to nought.

A short time passed and the fool began to pester his father to let him go. The father said:

"Your clever brothers accomplished



nothing, what can be expected from you?"

"Never mind, father, whether I accomplish anything or not, just let me go!"

The father gave in. The fool

tramped on and on until he met that same man. The fool begged him for work. The man replied:

"If you agree to work for the pay I'll give you at the end of a year on the

basis of what I think you're worth, then come along."

The fool agreed.

When the year ended the man handed the fool a club and said:

"You served me faithfully and well and consequently you shall be handsomely rewarded! This club is worth more than money.

"All you have to do is say: 'Club beat!' and the club will beat up anyone who has ill intentions towards you."

The fool thanked him and started for home. Halfway there, night overtook him and he turned in to that same house where his brothers had spent the night. The master received him, but was curious about the club.

"It is a club to which you must not say: 'Club, beat!'" the fool replied and curled up.

The fool lay sleeping while the master said to himself: "Since so much good has come out of the tablecloth and the ram, I imagine the club is even of greater value!"

He seized the club and said: "Club, beat!"

The club at once obeyed and jumped on the master's back and began to beat him unmercifully. At first the wretch was ashamed to yell, but when he became covered all over with bruises he began to shout at the top of his voice. He ran and awakened the fool and implored him to rescue him from the club. The fool answered:

"If you return the tablecloth and the ram which you stole from my brothers, then I'll save you from the club."

"I will, I will!"

In the morning the fool came home with the tablecloth, ram and the club and told his father to invite guests. The father privately thought that again he would be shamed by his son, but nevertheless invited the guests.

The guests gathered. But the fool did not shame his father. As soon as he cried, "Tablecloth, set yourself!" all sorts of good food and drink appeared on the table. When all had eaten their fill, the fool led in the ram and commanded it to spit out gold ducats which he generously distributed among the guests. But the two clever brothers were none too pleased and they began to mutter that they had earned the tablecloth and the ram, not the fool. If he had earned something too, they would like to see it. The fool overheard their griping and was vexed.

"You'll see what I earned! Club, beat!"

The club leaped on the brothers and began to belabour them unsparingly. They cried to the fool to rescue them, but he replied:

"Not until you promise never to call me a fool again."

The two promised and the fool took pity on them.



Fashions

DISCO STYLES FOR AN OCCASION

from the magazine
SILUETT

Photos by Igor BUTEYEV



Today disco clubs are especially popular among young people. No mean role in this is played by disco music, a novelty which made its appearance in the world in the 1970s. Exotic melodies and rhythms

evoked associations with the vivid and motley colours of carnival time. This vogue





introduced a new fashion trend - disco. Initially, designers offered extravagant variants of such garb only to band players and vocalists, choosing glittering fabrics and eye-catching colours in unexpected combinations. Along with assymetry and odd proportions, dress-wear featured sequins, brocade scarves and shawls, sparkling ornaments. Even a "space suit" - gold and silver overalls - made an appearance.

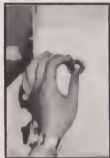
As not infrequently happens, youth

took to the innovations, the showy disco style caught on and is now seen in dance halls and at parties. The long dress, inconvenient for modern dances, has given way to narrow satin trousers and all sorts of tops. Depending on the model and fabric, a jacket may be added. Halter-tops, form-fitting overalls, wide skirts with tight and soft pleats are all the rage with young people.

Disco styles are above all for the young and slender.

It is amazing, but abrupt shifts in fashion affect not

only clothes, but the human form as well. It is sufficient to recall what was fashionable at different times: sloping shoulders, wasp waists, plumpness or thinness, full breasts or flat chests. How women manage to achieve this is a mystery, but somehow they do. Today the ideal female figure is long-legged and slender-hipped. In any case, disco styles are best suited to such a build.



INTELLECT EMBODIED IN METAL, OR A REALITY OF THE 20TH CENTURY

It is said that back in the 13th century, Archbishop Albertus Magnus of Regensburg kept a mechanical "guard" at the door of his monastery chamber. Made of wax, wood, metal and leather, it greeted and joked with visitors and asked how they were. According to the same legend, the young theologian Thomas Aquinas, one of the archbishop's pupils, pestered the "guard" so much that it once swatted him with its club.

Legend aside, three and a half centuries ago, in 1637, the illustrious French philosopher René Descartes announced that one day mankind would create "soulless mechanisms" which would behave like animals, although he did not say when exactly. It was only in the 1960s that the first automatic mechanisms were created. However, they bore no resemblance to animals. Long be-

by Sergei DOBKIN, M.Sc.
(Physics and Mathematics)

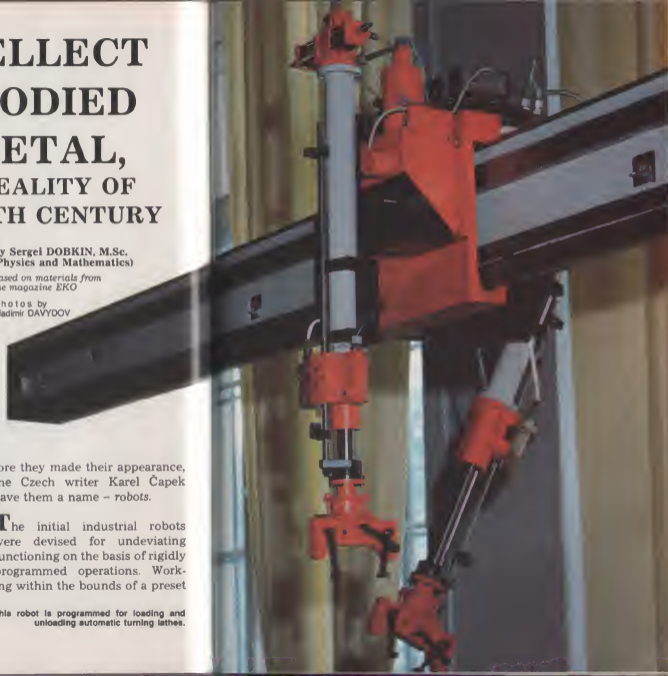
*based on materials from
the magazine EKO*

Photos by
Vladimir DAVYDOV

fore they made their appearance, the Czech writer Karel Čapek gave them a name - robots.

The initial industrial robots were devised for undeviating functioning on the basis of rigidly programmed operations. Working within the bounds of a preset

This robot is programmed for loading and unloading automatic turning lathes.



programme, they were comparatively easy to control.

As if realizing that there would eventually be hordes of these automats built, scientists called them robots of the "first generation". To this day they do a fairly good job next to man, serving heating furnaces, stamping presses, die-casting and programmed control machines. They are used in the manufacture of printed circuit boards, integrated circuits and picture tubes. They are also trusted with loading assembly and transfer lines, with packaging parts and blanks, and with welding jobs.

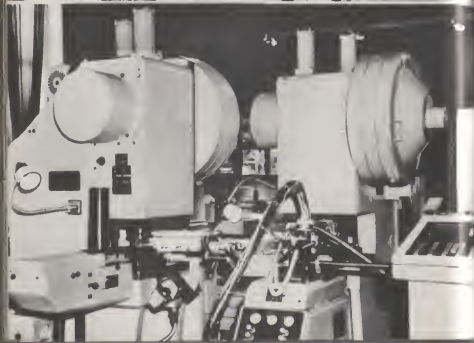
If a robot is to perform a series of operations in a set sequence, it has to be taught to do so. This is done by an operator who utilizes special control panel. Repeating the sequence of movements after the operator's instructions, the robot's electronic brain registers them in its memory, and in subsequent work reproduces these movements the required number of times. However, even a slight change in the robot's functioning conditions can lead to a decline of the quality of work and even to the robot becoming totally un-serviceable.

Let us imagine that something has gone away with the operation of a motor-car assembly line. The robot will be unable to notice the mistake. Assigned to drill holes in a car door, it will similarly drill holes in a fuel tank, completely untroubled by the fact that it is the wrong workpiece.

The robot's own electric circuit is not immune from malfunctioning either. The automat, "in a blind fury", may thus proceed to lash out with its powerful steel paw at anything around it. In one recorded instance, a robot at a Japanese plant killed a man. Not accidentally, an operating instruction appended to the American-made Unimate programmed manipulator-robot said bluntly that it had no eyes or reason, so any object or individual found in its path would be struck by its moving arm. Of course, it is to be commended that the instruction warned users to be careful. But how can man avoid getting caught in a dangerous situation?

The only way to do this is by creating robots with "sense organs" that will enable them to detect deviations from the preset order and adapt themselves to these deviations.

Robots of this kind are already called robots of the second generation. They have a large set of ar-



Second-generation robots: automated stamping complexes.

tificial sense organs which simulate man's senses of touch, vision and hearing. This enables them to work with unoriented objects, assemble and instal structures as indicated in drawings, and perform operations in a changing situation.

A robot of this kind should also have a kinesthetic sense. To grasp the complexity of the operation all the reader has to do is put his hand behind his back. In this position he will naturally be able to say whether his hand is clenched into a fist or spread out. But how can he tell? The sense which enables man, without using his sight, to know where parts of his body are and in what position is known as kinesthetic. Almost every present-day robot has monitors and coding devices by which its computer can identify the position of all its working organs at any given moment.

Second-generation robots have already shown that they can successfully perform in both outer space and the ocean depths.

On November 17, 1970, the Soviet automatic station *Luna-17* which touched down near the Sea of Rains on the Moon first unloaded a space robot - *Lunokhod-1*. This moon-buggy had legs - an eight-wheeled landing gear. Its sense organs were a set of information measuring sensors, its brain - an on-board control sys-

tem, and its means of communication contact with an Earth-based operator. A feedback TV channel gave the operator the sense of "being" right there on the Moon surface near the robot. This visual information was used to control the advance of *Lunokhod-1*. In 10 months it travelled ten and a half kilometres, picking up samples of moon rock at 500 points along its path and doing a chemical analysis of them.

Soviet scientists assume that by 1985, most Soviet automat will be already second-generation robots with developed means of sensitization, and that by 1990 the robots most commonly in use will be robots with elements of artificial intellect - *third-generation robots*.

The first elements of these systems of artificial intellect, known as gyromats, have already been developed at the Computer Centre of the USSR Academy of Sciences. The word "gyromat" was coined by the Polish science-fiction writer Stanislaw Lem, who used the word in one of his novels thus to denote systems which change their structure with the change of the conditions of the problem in hand. During functioning these gyromats, drawing on their own experience and the global objectives built into them, construct a model

which reflects the specifics of the problem, break it down into a series of subgoals, and find the most acceptable solution. Gyromats have been practically applied in the handling of a whole range of control problems: they control the operations of a seaport, the passage of ships through canal locks, and the operation of a large computer system.

Nothing short of a thinking being has been brought into the world by scientists at the Ukrainian Academy of Sciences' Institute of Cybernetics. It is a model of what has been called a transport autonomous integral robot (TAIR). In design terms, TAIR is made up of a three-wheeled platform with a sensory system and control unit mounted on it. The sensory system is a set of specific sense organs - an optical range finder, a navigation system with radio beacons and a compass, impact sensors and TV cameras. The control system can process information, and plan and control the robot's movements. The programme of route plotting, compiled with an eye to spot the obstacles, selects the safest route to the chosen target. TAIR has already gone through its first round of tests successfully, and it has shown it can effect purposeful movement across unfamiliar ground. Curiously, its operations are so intensely de-

pendent on a host of factors that its movements create an utter illusion of freedom of will - an inherent feature of man rather than a machine.

Why should the necessity of introducing robots in production be so urgent now?

"Let me begin by saying that automation and technological progress are inseparable from each other," explained Dr. Yevgeni Popov, Corresponding Member of the USSR Academy of Sciences. "Automation eliminates heavy physical labour and expands production. These two problems have become particularly acute - and, naturally, demand a solution - right now. It is no secret that a substantial number of workers around the world still have to perform monotonous, repetitious manual operations in their jobs with conveyors, machine tools, furnaces and mills, as well as in various jobs in storage centres and facilities. These people can be given a hand - that of a robot - within the remaining 17 years of the 20th century."



The Brain Learns Its Own Secrets

Science Makes New Discovery

by Victor VOLNOV

condensed from PRAVDA

This is one instance where the object of research became a tool of discovery. For over a century, medicine had been dominated by the assumption of the British scientist A. Monroe that the intensity of cerebral circulation does not change and cannot be regulated. But by the 20th century, people were beginning to question the correctness of the hypothesis, and other concepts appeared. Some scientists speculated that cerebral circulation was subject to change, but only because of fluctuations of the overall arterial pressure. However, attempts to find effective remedies for malfunctioning of cerebral circulation on this basis were unsuccessful.

This led the Soviet physiologist, Professor Georgi Mchedlishvili, to take a slightly different approach to the problem. Despite

the very highly developed organization of and interrelation between the billions of neurons and the magnificently adjusted "life support system", it was still not known what systems control cerebral circulation, and how. The initial success came with the study of circulation in the tiniest of brain vessels. Professor Mchedlishvili attempted to find out how the blood would accumulate, and where, if its flow from the brain tissue was artificially impeded. The result was amazing - there was no accumulation of blood, hence, no squeezing of the brain tissues. As soon as the extra blood in the brain was arrested, its influx was weakened by the appropriate value and the artificially induced disturbance eliminated.

What is the mechanism that protect the brain from an excess

of blood? After months of intensive effort, it was discovered. It was found to be the large internal carotid and vertebral arteries of the brain, which came to be known as the mainline system. It was experimentally demonstrated that, in addition to regulating the volume of blood reaching the brain vessels, these arteries ensure the constancy of the influx irrespective of changes in the level of overall arterial pressure.

The discovery is of major importance for hypertense people as well as for those who are normal. After all, changes of arterial pressure are fairly frequent in any individual, with both negative and positive emotions playing a key role. Nevertheless, the brain does not feel these extremely abrupt pressure jumps, so perfect is the regulative capacity of the mainline arteries. However, if the regulation is inadequate there can be unpleasant consequences ranging from headaches as a minimum to ruptured brain vessels and spasms in more difficult cases and brain oedemata in the most severe.

On the face of it, Mchedlishvili appeared to have discovered the secret. But he soon realized that the major arteries were not quite as "all-powerful" as he had

thought. Small arteries, known as pial and located on the brain's surface, were found to be another regulating element. It is these arteries which provide "local guidance" by regulating the brain's blood supply in accordance with the level of metabolism in its tissues.

And so the general mechanism of regulation of the brain circulation was gradually disclosed. In addition to the Georgian capital Tbilisi, the home of Professor Mchedlishvili, there was ongoing research in Moscow and Leningrad. By joint efforts scientists discovered that the regulating mechanism of cerebral circulation is controlled basically by vascular nerves. This concept is now universally recognized.

The discovery of the specific structures controlling the different parts of the brain's arterial system is far more than a major contribution to scientific theory. Equally important, it has created a solid foundation for making the diagnosing and treatment of disturbances of cerebral circulation more effective, especially serious diseases like spasms, ischemia and oedema of the brain, which are very difficult to combat.

"The practical utilization of our discovery lies ahead," said Professor Mchedlishvili. "However,

something has already been achieved in this field. For instance, scientists have discovered the nature of the spasm of brain arteries. Associates of our laboratory, which is linked with the Institute of Physiology of the Georgian Academy of Sciences, with the colleagues in the Centre of Experimental and Clinical

Medicine of the Polish Academy of Sciences, have studied the development of cerebral ischemia. We are coming closer to unravelling the mechanism of oedema formation, which usually accompanies severe injuries. And we are working with Hungarian scientists on making effective antispasm preparations." ⑤

A Seven-year-old Narrator of Folk Tales

For centuries the Kirghiz people of Soviet Central Asia have kept alive legends of their great folk hero Manas. The story-tellers who recount poetic tales about his amazing deeds – *manaschi* in Kirghiz – are held particularly high in popular esteem. It is said that it takes nothing short of a lifetime to become a real *manaschi* to whom audiences will give breathless attention.

When the tales are told by *manaschi* Asylbek Syidanov, the *koshma* (carpet) spread around him attracts even the most respected greybeards of distant villages, who make special trips on such occasions. But, the reciter, with his family and first-form friends, just celebrated his seventh birthday.

Asylbek first heard the lines from *Manas* from his mother, who read them to her son in the evenings. Remembering every word he heard, on the following morning the boy would retell the stories to his chums, adding to the classical text colourful new details and vivid episodes woven by his own boyish fantasy.

A year ago Asylbek was invited to enter a republican folklore competition. From Frunze, the Kirghiz capital, this young *manaschi* took back to his native village a diploma of honour, a special prize, and a thick volume of *Manasi*.

From the magazine
KLUB I KHUDZHESTVENNAYA
SAMODEYATEL'NOST

CHESS

by Isaac LINDER, Cand. Sc. (Hist.)



"We are all one big family", says the motto of the World Chess Federation. The word "family" is certainly appropriate here. Furthermore, it reminds me of the many families I know whose members share one interest, if not more, and that is chess.

The Frolovs are a family in Kommunarsk, a coalmining town in the Donets basin area in the Ukraine. The head of the family, Nikolai Frolov, a coal miner, learned to play chess rather late in life – when he was 20 or so. He did that, in his own words, "out of sheer curiosity". And then he became a real chess fan. Seeing her husband's enthusiasm about chess, his wife came to share his interest. Not surprisingly, their sons Vladimir and Alexander learned to play chess and became ardent devotees even before they went to school. Now mining engineers, they both have a chess rating – that of Candidate Master of Sport. Nikolai Frolov's grandchildren have scored even more spectacular successes: Arthur, who is ten, has a Candidate Master of Sport rating, and Andrei, aged eight, has a second class rating.

Here's the end part of the game Arthur

Frolov (age 10) played against Peter Roshchin (age 15) in the Young Hopefuls' Cup tournament held in the Donets coal basin area.

Arthur FROLOV (White)
– Peter ROSHCIN (Black)



10. Kf4 c:d; 11. c:d Kt:d4; 12. Kt:d4 Q:d4; 13. Kt:e6(!) Qb6; 14. Kt:g7+ Kf8; 15. Kf15 Kt:a5; 16. Kt:e7 K:e7; 17. Re1 Kf6; 18. Be3 d4; 19. Bf4 Kt:d3; 20. Q:d3 Kg7; 21. Be5+ f6; 22. B:d4; Black resigned.

Solve a problem

We present a problem by Tigran Gorgiyev (1910-1976), a native of the Ukrainian city of Dnepropetrovsk. In his compositions Black always has a strong play – as you can see for yourselves from the following:

* * *

Solution of Alexander Alekhine's problem in the November issue:

1. Qf5 B:f5; 2. Ra7+ K:e6; 3. Kf4fX.
2. ... Kg6; 3. Rg7X
1. ... B:d4; 2. Kd7 B:f5; 3. Kth0X.



White leads to win

THE BENEFIT OF CHESS

It is said that the world owes modern chess to 5th-century India. Without attempting to contest the assumption, the National Library of Madrid contains an anonymous manuscript of the late 14th century entitled *A Treatise on Chess*, which says: "Contrary to the widespread claim that chess was invented by Ulysses (Odysseus) so that his fellow-Greeks could while away the time during the long siege of Troy, it is actually an invention of the philosopher Xeres, who lived in Ancient Babylonia. A group of the wisest advisers to the king, who ruled the country with cruelty, greed and licentiousness, asked Xeres to think of an expedient that would exalt the morals and ennoble the character of both ruler and subjects. The philosopher responded to the

request by inventing chess, which truly improved the moral climate of society because the game cultivates reasonableness and a respect for law . . ."

The author proceeds to explain the rules and basic principles of the game, and concludes his treatise with the following consideration: "It is as unwise to violate these principles as it is to go fishing equipped with a gold rod: if the rod is lost, even the richest catch will fail to make up for the loss."

So leaving aside the question of who really did invent chess, it is worth pointing out that even in the Middle Ages, man realized that any game contains something as valuable as victory.

*From the magazine
64-SHAKHMATNOYE OBOZRENIYE*

Book
Section

POEMS of Different Years

Soviet poetry is imbued with civic and patriotic feelings bequeathed to it by Russian classical literature. It is true to life and full of revolutionary conviction and love for its people and the peoples of all lands.

SPUTNIK offers readers selected verses by Soviet poets of various republics written over a 50-year period.

POEMS

of Different Years

Drawings by Vladimir POLYAKOV



Vladimir
MAYAKOVSKY,
Russian poet
(1893-1930)

My Soviet Passport

I'd tear
 like a wolf
 at bureaucracy.
For mandates
 my respect's but the slightest.
To the devil himself
 I'd chuck without mercy
every red-taped paper.
 But this . . .
Down the long front
 of coups and cabins
File the officials
 politely.
They gather up passports
 and I give in

My own vermilion booklet.
For one kind of passport -
 smiling lips part
For others -
 an attitude scornful.
They take
 with respect, for instance,
 the passport
 From a sleeping-car
English Lionel.
The good fellows eyes
 almost slip like pips
when,
 bowing as low as men can,
they take,
 as if they were taking a tip,
the passport
 from an American.
At the Polish,
 they dolefully blink and wheeze
in dumb
 police elephantism -
where are they from,
 and what are these
geographical novelties?
And without a turn
 of their cabbage heads,
their feelings
 hidden in lower regions,
they take without blinking,
 the passports from Swedes
and various
 old Norwegians.
Then sudden
 as if their mouths were
 aquake
those gentlemen almost
 whine
Those very official gentlemen
 take
that red-skinned passport
 of mine.
Take -
 like a bomb
 take - like a hedgehog,
 like a razor

double-edge stropped,
 take –
 like a rattlesnake huge and long
 with at least
 20 fangs
 poison-tipped.
 The porter's eyes
 give a significant flick
 (I'll carry your baggage
 for nix,
 mon ami . . .)
 The gendarmes enquiringly
 look at the tec,
 the tec, –
 at the gendarmere.
 With what delight
 that gendarme caste
 would have me
 strung-up and whipped raw
 because I hold
 in my hands
 hammered-fast
 sickle-clasped
 my red Soviet passport.
 I'd tear
 like a wolf
 at bureaucracy.
 For mandates
 my respect's but the slightest.
 To the devil himself
 I'd chuck
 without mercy
 every red-taped paper,
 But this . . .
 I pull out
 of my wide trouser-pockets
 duplicate
 of a priceless cargo.
 You now:
 read this
 and envy,
 I'm a citizen
 of the Soviet Socialist Union!
 1929.

Translated by Herbert MARSHALL



Nikolai ASEYEV,
 Russian poet
 (1889-1963)

There Are Some Folk Who Money Covet

There are some folk,
 who money covet,
 as heathens
 idols, long ago,
 they cannot
 get sufficient of it,
 but this will not be always so.
 There are some folk
 who crave for power,
 who know no curbs,
 nor ken its worth,
 but soon will come their final hour,
 and other times will come to earth.
 There are some folk
 pursuing glory,
 it seems
 that legion is their name,
 their only hope,
 that in some story
 their names
 for ever will remain.
 It seems
 that power and adulation,
 are really
 very much like brine:
 You drink and drink
 without cessation,
 and still you're thirsty
 all the time.
 Your own,
 your private
 immortality
 is not
 in station,
 rank or birth:
 your this, your that –
 what triviality –
 it's in the future
 of your earth!
 And since
 the earth began its spinning,

since man
 upon his feet first stood,
 we see at last,
 the faint beginning
 of universal brotherhood.
 May every
 colour
 be invited,
 to share
 the world's
 abundant good,
 to come together,
 live united,
 as decent human beings should.

1935.

Translated by Eugene FELGENHAUER



Love

It happens, you sit far from home
 With people who you've never known
 Yet feel how dear to them you are.
 It isn't just that you are you -
 There's better, wiser men by far -
 But there is something, clear and true,
 In you which summons to their mind
 The land you left so far behind.

From all they say
 and from the way
 They cannot tear their eyes away,
 The way
 they wish you'd always stay,
 The way
 your answering glance they meet -
 It seems, not you alone they greet -
 Not you alone lay bare your soul
 To their unfathomed friendship's test,
 But all your land as one great whole
 Sits at the table as their guest.

Konstantin
 SIMONOV,
 Russian poet
 (1915-1979)

If in some humble house the last
 Few pennies from the purse are cast
 To offer you a treat that day -
 As for the future, come what may! -

If in the night a mother wakes
 Her children up with baited breath
 And then your hand each youngster takes
 To keep the memory till death, -
 If at a rally past a line
 Of young reactionary scum,
 Guarded by comrades brave and fine
 Uninjured, safe and sound, you come, -
 When you perceive their feelings' force
 Don't dare ascribe it to yourself,
 Don't hoard it on a private shelf;
 It isn't you who gave it cause,
 that burning love their looks bespoke,
 But your great land, your native folk.

The love with which their bosoms swell
 You owe to bearded men who held
 The guns when Winter Palace fell
 While you in swaddling clothes still yelled;
 To that young lad who breathed his last
 When kulaks fired their fatal blast;
 To him who built the Dnieproges,
 While you were still a schoolboy - yes,
 To soldier-boys who took last steps
 And bit the snow in Don-side steppes;
 To him who from captivity
 Roused seven nations to break free.

So if the honour falls to you
 In foreign parts, away from home
 To be recipient alone
 Of all that boundless love which grew
 For years and years - to be, in part,
 Its postman is reward enough.
 Yes, like a mailbag let your heart
 Accumulate that wealth of love
 And take it home from overseas
 To all its rightful addressees!

1954.

Translated by Dorian ROTTENBERG



Grigol
ABASHDZE,
Georgian poet
(b. 1913)

* * *

All that is alive and new under the sun
Is in a state of flux, of tension.
Since first the planet's spinning was begun
Creation brings destruction: harmony -
dissension.
And yet the least of things - a grain of sand -
Falls not in vain, nor vain the water's murmur.
In everything the God of Beauty has a hand.
Each thing's a marvel, there's no end of
marvels.
Look where we will, another wonder greets the
eye.
The future holds fulfilment of the past,
And all this wonderment will last, will last,
None of it will die.

1957.

Translated by Margaret WETTLIN



Petrus BROVKA,
Byelorussian
poet
(1905-1980)

The Wonder-Bridge

Life is a river of surprises
With shoals, deep pools, rocks, waterfalls.
Our bridge of days above it rises
To lead us on to other shores.

This bridge my days of youth illumined,
From one shore to the next it ran
And there I saw a rainbow blooming,
Which spread like wings its double span.

And when I looked beyond the arches
To see what in the distance lay
I saw fine forests, blue horizons
And stars a million miles away . . .

In storms we rapid currents challenged
That bore calamity and woe
And, though rough waves the stone piers
battered,
The bridge stood firm against the flow.

The bridge withstood the raging waters
Because ourselves we fought the foes:
The strongest evil forces falter
When human hearts their schemes oppose.

And still we hear beneath the arches
Life's river murmur as before.
The wonder-bridge gleams in the starlight
And beckons us to new bright shores.
1974

Translated by Peter TEMPEST

The Oakleaf

The darkest clouds won't terrify me,
I can withstand the fiercest winds,
I cling to life, all storms defying,
As to its branch an oakleaf clings.

Through autumn rain and gloom despairing
It blazes with a copper glint.
And when a vicious wind comes tearing
The oakleaf merrily sways and rings.

In winter, when the cold turns mean
And every night a blizzard blows,
An oakleaf valiantly screens
The mother branch on which it grows.





Vladimir
SOLOUKHIN,
Russian poet
(b. 1924)

But when the spring its magic weaves
The oakleaf welcomes it, enthralled,
And ceding place to young green leaves
Upon the ground it softly falls.

1974.

Translated by Olga SHARTSE

It Happened in 1920

The year – 1920. All day and all night
In the Soviet capital blizzards were raging,
The frost was so bitter that birds in mid-flight
Were gasping for breath and fell dead on the pavement.

Cutting winds through smashed factory
window-panes blew,
Hoarfrost shone that December on engine and tool.

A mere pound of damp bread was the rations
for two.
Fences torn down and chopped into bits went
for fuel.

At long intervals water would run from the taps,
And the lights in a house would go out for a
week.

That's in Moscow. And if you were living,
perhaps,
In the provinces swept by December winds
bleak?

So that man on his visit to Russia thought
As he looked at the capital cold and austere.
With the snow whirling madly his car-
headlights fought.

In the bylanes hung posters in shreds here and
there.

Off to nowhere led snow-covered, rust-eaten
rails

And the Kremlin towers loomed like age-old
apparitions.

He'd a powerful fancy, that Englishman Wells,
But he felt rather frightened at Russia's
condition.

He had formed his ideas before reaching the

gate,
And the forthcoming visit had little to add.
Russia is in the shadows – none's left to await.
Yes, its prospects, indeed, seemed exceedingly
sad.

This battle of worlds didn't look like the one
Which he'd pictured at moments of inspiration.
No Martian leader was this who'd begun
His statesman's career in such bleak desolation.
Two uniformed men led the writer upstairs
From the doors to the palace reception hall,
And then along spacious corridors where
Lamps at half-light shone from the ceilings tall.
The parquet spread, unpolished for years,
underfoot.

Then the huge office door was opened over it,
And the writer went in. What was it, he
thought.

That engaged the thoughts of the leader of
Soviets?

Last night they had heated the stove, but today
It felt pretty cold in the leader's big office.
Coat thrown on his shoulders, till morning he'd
stay

At work in it, dreaming of freeing the world.
Now he offers

A leather-backed armchair to his British guest
With a simple broad gesture: "A cup of tea?"
While it isn't yet cold – splendid tea, quite the
best.

Though we haven't got jam, but that's as may
be."

The wind lashes the window-panes, sharp as a
whip.

The country spreads far out beyond the thick
walls.

"Well, what are you going, Vladimir Ilyich,
To do with your wrck of a land, after all?"

The rough thread of their talk stretched to
breaking-point.

The guest voiced his sympathy, eyes full of pity.
"This country – we're planning to have it lit up,
to make life much brighter in village and city."
And he waved at the map – from the West to the
East,

From Pinsk swamps to the Kremlin, to

boundless Siberia.
 "Can a country like that be a permanent wreck?
 No, it isn't so easy," he chuckled. "to bury her."
 At the gesture the coat from his shoulder
 slipped off.
 He wielded the pointer with expert precision;
 And the walls of the office became like a screen
 Where like fairy tales, vision came after bold
 vision,
 Where Siberian rivers were saddled by dams,
 Mighty turbines delivering oceans of power
 Through huge cable-lines hung over forests and
 fields,
 Gigantic, extending from tower to tower.
 And the gloomy taiga wreathed with factory
 smoke
 Came alive with bright lights, full of vigour and
 motion,
 And the rivers abandoned their old beds and
 changed
 Their course as we bid on the way to the ocean.
 Canals through dry steppes ran for hundreds of
 miles,
 And lemon-groves grew up in fragrant
 resplendence.
 In the heart of the desert green cities arose.
 And above them flew aeroplanes, skyward
 ascending.
 The guest left disgruntled; in London he'd give
 An interview on his overseas journey.
 "An Utopian dreamer is ensconced in the
 Kremlin!"
 The eminent author would say on returning.
 There is no need to argue now. Spring's at the
 door.
 Yes, we're dreamers and builders, not poor any
 more.
 And one wants to cry out, full of triumph,
 today:
 Do you hear, dreamer Wells? Tell us what
 would you say?
 Is our Russia in gloom? No, it glitters with light.
 Free and young, growing quickly, increasing in
 might.
 Sad to say, you are dead, and unable to see us.
 Bearing high our bright beacon, like proud



Mikhail
 ISAKOVSKY,
 Russian poet
 (1900-1973)

Prometheus.
 It's the Soviet banner that burns like red flame
 Lighting up the expanse of Australias and
 Asias.
 As for dreaming of Mars - yes, of course we do
 dream,
 And we'll reach it, we Communists - let's lay a
 wager!
 1965.

Translated by Dorian ROTTENBERG

October 25, 1917

Again I think, re-picturing the way
 My land has passed, the battles it has seen,
 The world has never lived through such a day
 As that great day in 1917.

It was and still remains the source of sources
 And we are living witnesses to this:
 That day the working people mustered forces
 And first emerged from misery's abyss!

That day our people first attained full stature
 Unbending backs that ached with thankless
 toil.

Yes, one-time slaves, for the first time in ages,
 Became the masters of their native soil.

For the first time, despite its countless foes,
 Above this land of boundless length and girth
 The workers' and the peasants' star arose -
 Till recently the only one on earth.

All we have built or not yet built, perhaps,
 But doubtlessly will carry to completion
 Took source that autumn day from
 thunderclaps,
 That heralded the People's Revolution.

That day, suffused with grim gunpowder
 smoke,
 Became our holiday - the brightest and most
 treasured.
 The joy that its recurrences evoke
 Can never be and never will be measured.

It shines to us, a lofty light that calls
 For peace, fraternity and renovation,
 Never to fade – to burn in human souls.
 To gain new power with every generation.

1967

Translated by Dorian ROTTENBERG

To my son

All things you can exchange for what you're
 needing –
 a house for staves, a songster for a steed –
 and you can lose, indifferent, never heeding,
 your reason, time and even friends in need.
 All things you can forget – your wants and
 sorrow,
 how slander spreads and how true love first
 burned.

All things you can lend out, and yet, tomorrow
 the bread and cash you lent shall be returned.
 I long to know that my great faith shall win you,
 to link me with the sons you shall beget:

Our country
 like the heart that beats within you –
 you can't exchange, or lend, you can't forget!

1967

Translated by Tom BOTTING

* * *

Happiness has no memory –
 you just can't find it!
 I checked it yesterday
 And years ago.
 The slightest sorrow leaves a scar behind it.
 But happiness, which has no memory –
 O, no!



Sergei PODELKOV,
 Russian poet
 (b. 1912)



Mikhail
 LUKONIN,
 Russian poet
 (1918-1976)

It's like the air – we know it's there, and breathe
 it;
 It's natural, like sunshine, and like air;
 And that is why its memory dies with it,
 And we for troubles never are prepared.
 When you have happiness –
 no words are needed –

It's like your heart – its place is in your breast;
 Until it's pierced by pain, you never heed it,
 You think you'll live
 for centuries at least.

You wonder at my smiles?
 No tears of anguish?

My lack of haste to bid this world farewell?
 There is no pain on earth I cannot vanquish –
 And as for insults, they can go to hell.

Give up my happiness which has no memory?
 No, never!

We're systole and diastole,
 Two in one.

No insults or misfortunes
 can dis sever

My happiness and me – it simply can't be done.
 1968

Translated by Louis ZELLIKOFF

* * *

There are no trees to spare
 In any thicket.
 Even if just a few shrubs are cut down,
 A forest is deprived that very instant
 Of ancient beauty that brought it renown.

Just as in times of hardship and disaster
 The heart is warmed when sympathy is shown,
 So is a man or woman
 Only happy
 When on our planet they are not alone.



Flor VASILYEV,
 Udmurt poet
 (1934-1978)

The Volga's blue and vast, yet stronger
 When with the Kama river it's combined.
 And I can't possibly conceive
 Of Russia
 Without this small Udmurtia of mine.
 1972

Translated by Peter TEMPEST

My Russian Language

*I would have learned Russian
 Just because Lenin spoke it.*

Vladimir MAYAKOVSKY

Noble heritage of our nation,
 Tongue of the Yakuts, from childhood heard,
 Like the air breathed your gifts were taken,
 At my mother's knee I learned each word.

Yet it happens, friends, when I am tracking
 Some new word and sit, my pen in hand,
 That I find my own rich language lacking
 The expression, though I searched and scanned.

Life sweeps on, old rules of language breaking,
 (What new feelings, happenings and deeds!)
 My own thoughts in Russian often shaping,
 Russians taught me much of what I need.

For all time there came without translation
 Russian Soviet words - their number rose -
 To the soul and language of each nation.
 Kinship of the spirit gave us those.

I hold keys to science, am perusing
 What the Universe has shown to me -
 Just because I learned and I am using
 All-embracing Russian as my key.



Semyon DANILOV,
 Yakut poet
 (1917-1978)



Gevorg EMIN,
 Armenian poet
 (b. 1919)

By the use of Russian I am able
 To greet my black brothers, learn their lore,
 Speak to the French docker, sit at table,
 Talking to my friends from Cuba's
 shore.

Our Union, which free states embraces
 Under the red flag, that flies above,
 It unites the peoples and the races
 Which all use the Russian tongue they love.

Russian speech, the tongue of toil and glory,
 Holds great riches, countless hearts does reach
 And our planet thrills to the great story
 In immortal Lenin's native speech.
 1972.

Translated by Eva STRAUSS.

I Love All Languages ...

I love the tongues of every nation and land,
 I love all people, all that is of man.
 I do not know what was the cruel curse
 Or who was the malevolent Cain who first
 Compelled mankind to speak in different
 tongues

And barriers between the peoples flung.
 For every tongue is worthy of respect,
 Just as each nation honour may expect.
 They say that in an age long lost from view
 Men spoke one language -

I believe this true.

All men, they say, assembled once to build
 Together one great Tower of Harmony.
 But God observed it and in Heaven fumed,
 He cursed man - and perhaps deceived him, too

Created languages, dissension sowed
 And thus the Tower of Babel he laid low.

So does the legend run.

But this is right:

If all mankind were only to unite
And build their shrine of Justice and
Brotherhood,
Then they would have no further need for God.
When happy people understand one another
And are not stirred to war against their
brothers,
Man need not pray to God for better days
Or, hoping for God's mercy, sing his praise . . .
I love the tongues of every nation and land,
I love what's honest and noble in a man.
On works of Raphael I gaze with awe
And valiant Othello's death I mourn.
I love in Scottish hills with Burns to walk
Or take a stroll with Whitman through New
York . . .
When fascists attacked my motherland, that
night
With Goethe's poems in hand I went to fight.
It is my wish to know and take to heart
All nations' languages,
their songs, their art.

The tearful tunes I hear Ankara sing
Excite me too, despite past suffering.
I who from childhood know my ancient tongue,
The splendid language of Mesrop Mashtots,
Desire to learn the tongues all nations know.
So I may feel at home wherever I go.
All that is honest and noble in a man
I wish to seek and find in every land.
In their own words I wish to fight their foes,
Their cherished aspirations to uphold.
I've learned to speak some English, which I
chose
Not to amuse myself with or to boast
But so that, having Shakespeare as my friend,
With Macbeths of all times I might contend;
Cervantes too in Spanish I would greet
And join his fight all tyrants to unseat,
And with Hikmet I'll curb evil's rampages
To save this age of ours from the Dark Ages.
1976.

Translated by Peter TEMPEST

A Contest!

Sputnik

**For those who love sports
SPUTNIK offers a new contest,
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Winners will receive albums of the colour photographs by best Soviet masters, a unique anthology representing the life of over 100 nations and nationalities in the USSR.

During 1983, photographs of famous Soviet sportsmen will appear on the inside back cover of the magazine. You must answer the questions under the photographs. Previous issues of SPUTNIK can help you in this.

We request that you send your answers monthly, as photographs appear, or all at once at the end. The last date for mailing your entries is January 31, 1984.

WINNERS will be chosen from among those who send the most comprehensive answers to the questions.

RESULTS of the contest will be published in the May issue of SPUTNIK in 1984.

The Editors would appreciate the following information from contest participants: sex, age, profession, and how long you have been reading SPUTNIK.

**EVERYONE IS INVITED
TO PARTICIPATE IN THE CONTEST.**

The Editors



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In Our Next Issue:

IS THERE MUCH OIL AND GAS IN THE WORLD? This is a crucial question for the world economy. The consumption of energy on our planet doubles every two decades. Some specialists are pessimistic, naming even the year – 2010 – when the energy catastrophe will strike. However, there are other, more optimistic forecasts.

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RUSSIAN MUSEUM. SPUTNIK begins publication of a series of illustrated stories about the biggest depository of Russian and Soviet works of fine art – the State Russian Museum in Leningrad.

STUDIES WITHOUT MARKS. Discussion about whether we need marks in schools or not has been going on for quite some time now. Many educators believe that the mark has become the be-all and end-all. It is often the reason why the child studies without pleasure and does not care for knowledge. In one school in Georgia (a republic in the USSR) an experiment is underway whose aim is to prove that it is possible to conduct classes without evaluation marks.

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Detail from a painting by a Soviet artist. Who is the artist? What is the title of the picture?

Tell us about the artist's works. This ends SPUTNIK's contest "HOW WELL DO YOU KNOW THE RUSSIAN ARTISTS?"

Those wishing to take part in a new SPUTNIK quiz, please turn to p. 169.

CONTEST

Sputnik